THE GRILL: Twitter co-founder Biz Stone offers his vision for the real-time network's future — and explains the 140-character limit on tweets. **PAGE 16**

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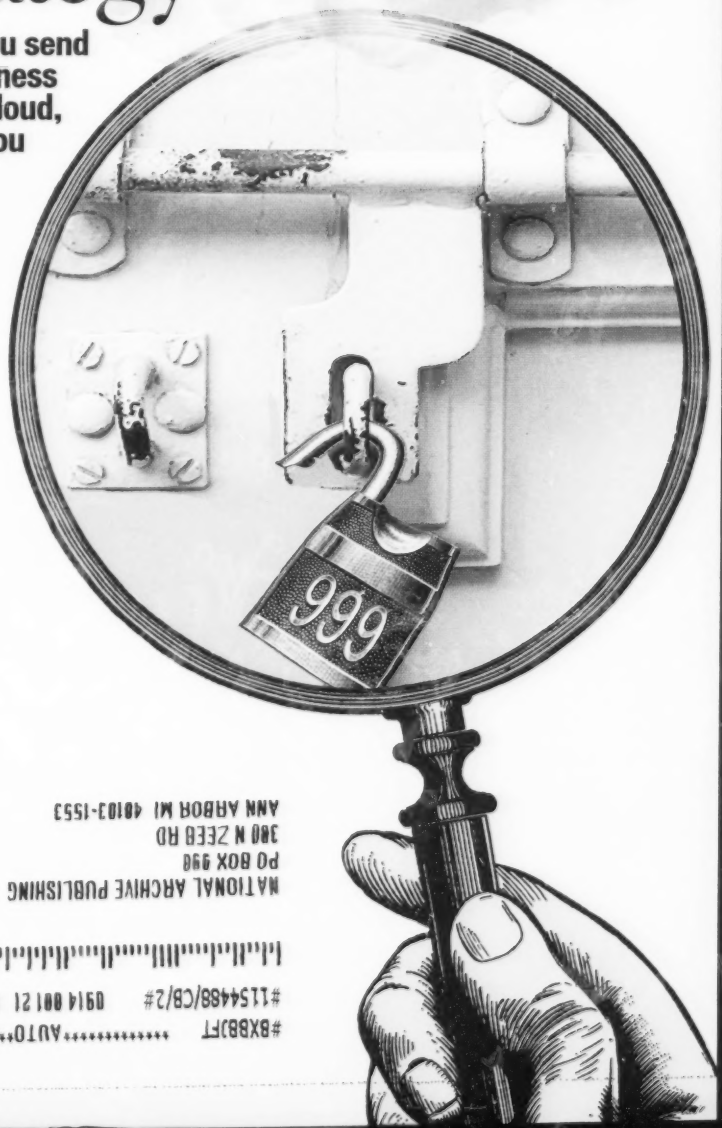
Cloud Exit Strategy

Before you send your business into the cloud, be sure you can get it out.
PAGE 22



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Inside

MARCH 30/APRIL 6, 2009
VOL. 43, NO. 13 $5/COPY

News Analysis

Data centers are in the bull's-eye of the White House's 'cap and trade' energy pricing plan. PAGE 12

IT security execs say they were ready to face the Conficker worm if it sprang into action April 1. PAGE 14

Development

Azure uses familiar tools to lure Windows developers into the cloud with Microsoft. PAGE 28

Storage

Shrinking budgets and swelling data demands send IT managers searching for more-efficient storage. PAGE 30

Opinion

All decisions are really snap decisions, so don't sweat the process – it's the end result that matters. PAGE 36

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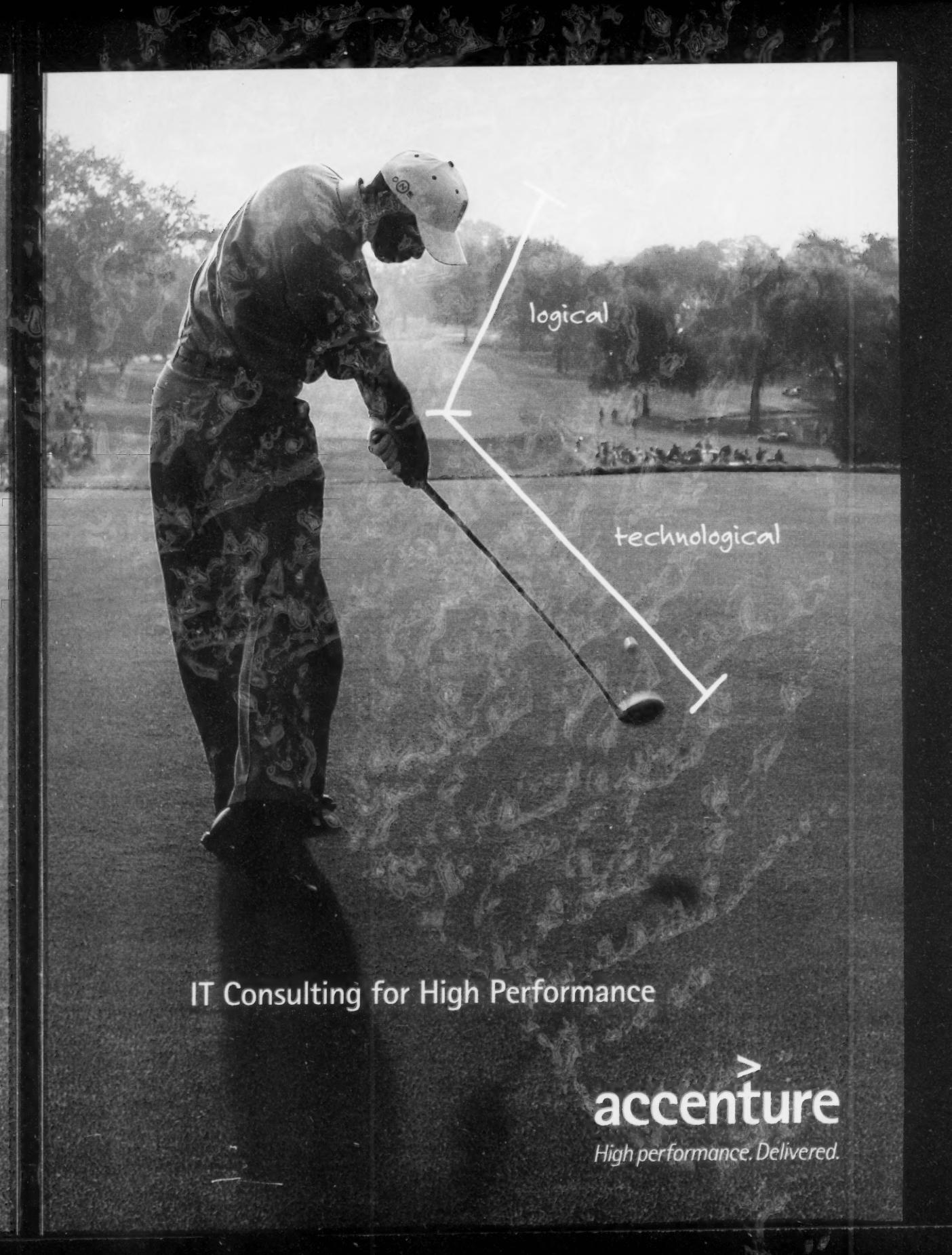
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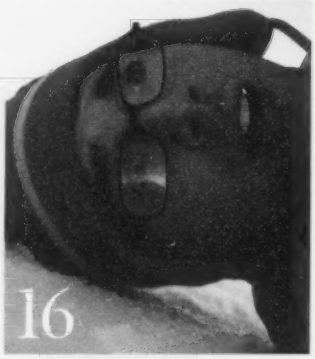
Inside

COMPUTERWORLD ■ MARCH 30/APRIL 6, 2009

■ NEWS

6 The **Kaiser Permanente** hospital where Nadya Suleman gave birth to octuplets fires 15 workers for **improperly accessing her medical records.** | Lawmakers and retail industry officials contend that the **PCI security rules** aren't doing enough to stop **data thefts.**



8 A Senate bill would empower federal officials to set **IT security standards** for key parts of the private sector – and **shut down systems** in emergencies. | The **Chinese government** denies that it is involved in a **cyberspying ring** that has ties to systems in China.

10 Microsoft hits what it calls the secret drafting of the **Open Cloud Manifesto,** which sets guidelines for cloud computing interoperability.

12 Power Play: Data Centers Brace for Obama's New Energy Plan. IT facilities may see higher electricity costs under the cap-and-trade energy plan being pitched by President Obama.

14 IT Was Ready for a Conficker Attack. IT security managers say they were prepared for the threat posed by the Conficker.c worm on April 1.

■ OPINION

4 Editor's Note: **Don Tennant** urges IT managers not to feel guilty about renegotiating vendor contracts.

36 Paul Glen says that good or bad, quick or agonized, all decisions in the end really are snap decisions.

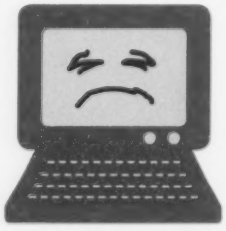
40 Frankly Speaking: **Frank Hayes** warns us not to be complacent about Conficker just because there was no digital Pearl Harbor on April Fools' Day.

■ DEPARTMENTS

16 The Grill: Twitter co-founder **Biz Stone** talks about his original vision for the service, where the future of micromessaging is headed and his favorite tweets.

34 QuickStudy: **Rich Internet Applications.** RIAs bring fast, dynamic interaction to previously static Web pages.

35 Security Manager's Journal: **A Rougher Week Than Usual for Security Chief.** If something could go wrong, it did for Mathias Thurman. Sometimes, the bad news seems to pile up and drop on you all at once.

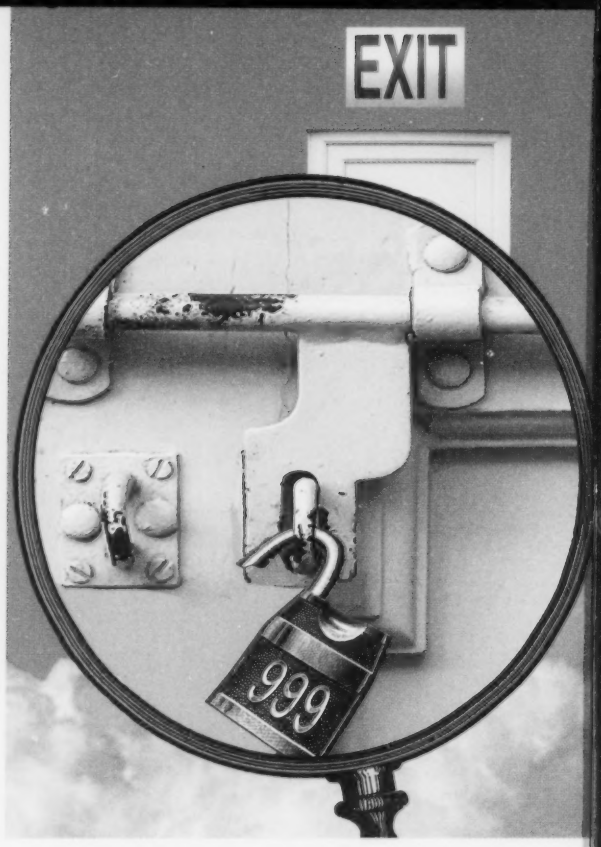


37 Career Watch: Some people call in sick with more elaborate excuses than, "I'm sick."

39 Shark Tank: An exterminator called in by a cell phone company proves to be worse than any bug.

■ ALSO IN THIS ISSUE

Letters	5
Company Index	39



■ FEATURES

22 Cloud Computing Exit Strategy

COVER STORY: Vendor lock-in is one of the primary fears of IT managers who hesitate to get into cloud computing. How real is the risk, and what can you do about it?

28 Banking on Programmer Loyalty

Windows Azure provides familiar proprietary tools to lure Windows developers into the cloud with Microsoft.

30 Struggling With Supersized Storage

Amid shrinking budgets and swelling data demands, IT managers are searching for more-efficient storage options.

32 Is Collaboration Destroying Value at Your Company?

Q&A: U.C. Berkeley's Morten T. Hansen says managers often forget that collaboration is not an end in itself but a means of achieving business results. And sometimes it backfires.

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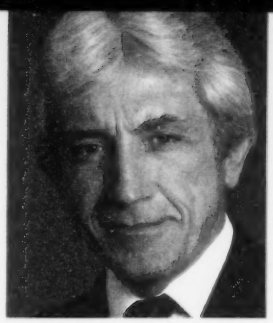
■ EDITOR'S NOTE

Don Tennant

Renegotiate Now



WHEN I SUGGESTED several weeks ago that companies need to force their IT vendors to shoulder more of the burden of the recession and that renegotiating contracts is a better way to cut costs than laying off IT workers, some readers felt I was being unfair. They pointed out that if less favorable contracts force a vendor to lay off employees, those layoffs are just as troubling as layoffs at a user company.

As I wrote in a subsequent column, I fully agree that layoffs are disturbing regardless of who makes them. But what needs to be considered is that while all layoffs are equally troubling, not all layoffs are equally justifiable.

In the column that some readers deemed unfair, I wrote about Dale Frantz, CIO at Auto Warehousing Co., who has managed to avoid laying off a single IT worker even though his company's fortunes are tied to those of the tanking auto industry. I noted that he's facing some tough challenges and that he has managed to cut costs by taking measures such as renegotiating and canceling some vendor contracts. For Frantz, layoffs are an absolute last resort.

And he has little patience for the notion that he and his vendors are on an equal footing when it comes to layoffs. His passion about the topic is hardly veiled.

"Let's be clear: No IT layoff is good, at a vendor or a customer," Frantz wrote in a follow-up e-mail. But, he said, all of the vendors he has negotiated with are profitable, and most are *very* profitable. "Layoffs at the vendors are occurring not due to necessity to stay in business, but because they treat their IT talent like a commodity," he wrote. "These are not necessary layoffs, but optional ones to keep Wall Street analysts happy."

Auto Warehousing is facing tough economic times, Frantz wrote, "yet we value our IT talent above our vendor contracts and so far we have kept our staff intact. It is not my goal to see our vendors lose money and be forced to lay off staff,

■ While all layoffs are equally troubling, not all layoffs are equally justifiable.

but many large companies seem to be taking advantage of the current recession as a means to trim the payroll when it's not absolutely necessary. They are still very profitable."

Frantz wrote all that before word surfaced on March 26 that IBM was laying off another 4,000 (some reports said 5,000) employees. That news, he subsequently added, underscored his point. Quoting from IBM's January shareholders report, Frantz noted that CEO Sam Palmisano spoke of IBM's "outstanding" year in 2008, its "strong financial position," its "solid recurring revenue and profit streams," and its expectation that 2009 will see full-year earnings of at least $9.20 per share.

"Does this sound like they have a desperate need to move 4,000 jobs to India?" Frantz asked.

It's just one example, but the point that your large vendors are probably a lot more profitable than you are, and are likely making a lot more discretionary staff cuts than you are, is a solid one. Perhaps, then, contract renegotiations need not be accompanied by a guilt trip.

According to Diana McKenzie, a Chicago attorney who specializes in IT contract law, companies that are renegotiating are "really, really smart."

"We're getting provisions in contracts that two years ago I would have told the client, 'You're never going to get that; don't even bother asking,' " she said in a March 23 interview. "I'm seeing contracts that historically would have taken three months to negotiate being sent to the vendor and signed the next day." She said her clients "are being delighted" by the prices and terms they're getting in renegotiated contracts.

"Those terms aren't going to be available forever," McKenzie added. "The companies that are smart and are renegotiating now are getting some tremendous deals."

That message can't be spread quickly or widely enough. One layoff made when other options are available is one layoff too many. ■

Don Tennant *is* Computerworld's *senior editor-at-large. You can contact him at don_tennant@computerworld.com, visit his blog at* http://blogs.computerworld.com/tennant, *and follow him on Twitter at* http://twitter.com/dontennant.

Data Is Key to Managing Power

I believe the March 2 article "Power Struggle," about IT's role in reining in power usage, missed a major point when it comes to monitoring, controlling and reducing power. You must have data for the items using power and not just guess that lower wattage will make a difference. With power, harmonics and other problems (power factor, etc.) can only be seen with a SCADA system.

Therefore, IT must become aware of the electrical department's function and use the SCADA historian data (usually a SQL database) for better understanding and controlling the costs of power. Briefly, harmonics devalue the rating of transformers causing internal heat, but you get nothing for this expense unless it is regulated.

Power factor is an efficiency rating, and some power companies charge for low power factors. Again, you do not know how or what to do in order to fix it unless you are monitoring the power factor.

■ **Jay Park,** *product manager, BCI Technologies, Enterprise, Fla., DrJPark@BCItech.com*

Layoffs Are Layoffs, Even at Vendors

I was very disturbed by Don Tennant's March 16 article, "Fingers Crossed." For some reason, he feels that nonvendor companies have a greater right to make money and retain employees than do vendors. Why? IBM, Microsoft, Dell and others have all announced layoffs. Are those better layoffs than layoffs at other companies? Why should vendors sell software and services at profit margins that don't sustain their payrolls, provide for R&D investment or improve customer service, while it is OK for a manufacturer to have IT people sitting around doing nothing?

Tennant should stick to writing about technology. It looks like he missed economics classes while he was in school.

■ **Eric Down,** *Chicago*

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Inside HP Labs: 8 Cool Projects

Not surprisingly, much of the research in Hewlett-Packard's labs is tied to printing, imaging and server technology. On tap: a color thesaurus, photonics and a way to eliminate red eye from photos of pets.

10 OSs the World Left Behind

From CP/M to OS/2, AmigaOS to NeXTStep, we look back at 10 operating systems that made a big splash but went the way of the dodo. Or did they?

Review: SUSE Linux Enterprise Desktop 11

Novell's operating system is your best choice for a business desktop alternative to Windows.

25 Highly Anticipated Open-Source Releases

These browsers, development tools, mobile apps and more promise that "Oooh, cool!" sense of discovery.

Premium Netbooks: Good Value or Oxymoron?

We evaluate four of them.

Tired of Waiting for Windows to Boot?

A hands-on examination of two Linux-based "instant-on" environments that live side by side with Windows.

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News Digest

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THE WEEK AHEAD

MONDAY: Storage Networking World Spring 2009, which is jointly run by *Computerworld* and the Storage Networking Industry Association, opens in Orlando.

MONDAY: General sessions get under way at HIMSS09, the Healthcare Information and Management Systems Society's annual member conference in Chicago.

MONDAY: The HDI 2009 Conference & Expo begins in Las Vegas for technical service and support professionals.

<< Nadya Suleman's patient files have been improperly accessed by at least 23 Kaiser workers.

PRIVACY

Kaiser Fires 15 for Peeking At Octuplet Mom's Records

IN THE LATEST example of employee data-snooping, a Kaiser Permanente hospital located in a Los Angeles suburb has fired 15 workers and reprimanded eight others for improperly accessing the medical records of Nadya Suleman, the California woman who gave birth to octuplets in January.

The unauthorized accessing of Suleman's electronic records at the facility in Bellflower, Calif., violated a California law designed to safeguard the privacy of health care data, according to Kaiser spokesman Jim Anderson. He said the improper activities were discovered through increased network-monitoring procedures put in place by the hospital in connection with the birth of the octuplets.

Kaiser also conducted extra training to remind hospital employees of the need to keep patient data confidential, Anderson said.

The snooping incidents highlight the lack of adequate data-security controls at hospitals and other health care organizations, said Deborah Peel, who heads the Patient Privacy Rights Foundation in Austin.

Peel claimed that such privacy breaches occur on a broad scale because of the health care industry's continued reliance on "primitive" user-access controls. At large enterprises like Kaiser, she noted, thousands of workers may be able to access patient data, even if they don't need to do so.

In a similar case, the medical center at the University of California, Los Angeles, disclosed last April that as many as 165 doctors and other workers had improperly accessed the medical records of numerous celebrities over a 13-year period.

But such incidents aren't restricted to the health care industry. In January 2008, federal officials disclosed that U.S. Department of State employees and contractors had snooped in electronic passport records, including then-Sen. Barack Obama's.

Jay Cline, president of Minnesota Privacy Consultants, thinks the "Facebook effect" is partly to blame. Users of social networks "have become used to poking through other people's profiles," Cline said, "and they see no ethical difference doing the same thing with employee and customer databases."

He added that IT and security managers need to make three things clear to employees: "Our systems are not Facebook. We're watching system usage closely. Use them for authorized purposes only, or you may be fired."

— Jaikumar Vijayan

SECURITY

PCI Standard Criticized at House Hearing

At a congressional hearing last week, federal lawmakers and retail industry officials contended that the PCI security rules have done little to stop payment card data thefts and fraud.

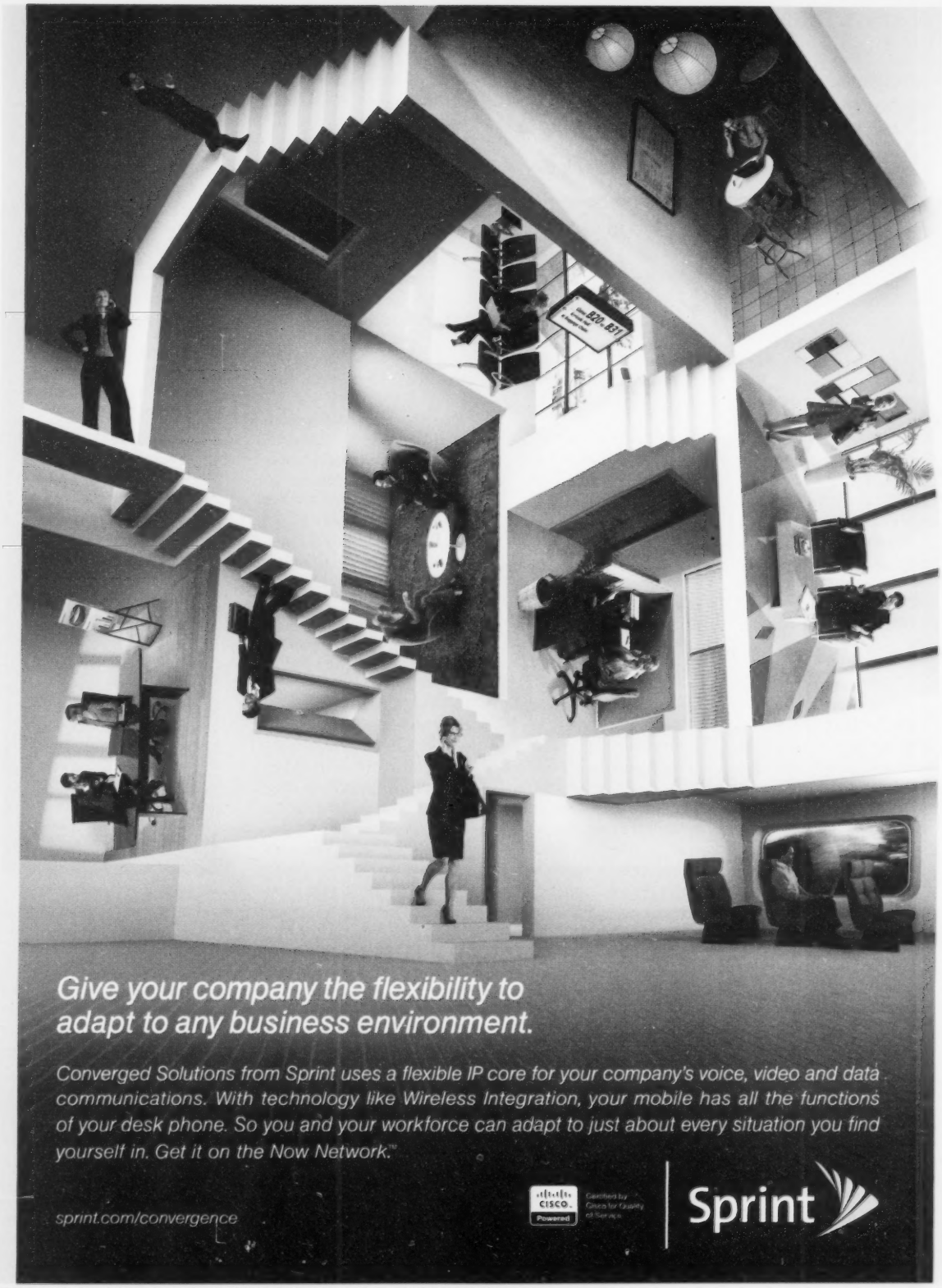
"I do want to dispel the myth once and for all that PCI compliance is enough to keep a company secure," said Rep. Yvette Clarke (D-N.Y.), chairwoman of the House subcommittee that held the hearing.

National Retail Federation CIO David Hogan claimed that the rules – formally known as the Payment Card Industry Data Security Standard – are little more than a tool for shifting financial risks from banks and credit card companies to retailers.

But Bob Russo, general manager of the council that oversees PCI, insisted that, when companies implement it correctly, the standard is useful in protecting against data breaches.

– JAIKUMAR VIJAYAN

■ **Rep. Yvette Clarke blasted the credit card industry for using '1950s-era' payment systems.**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GOVERNMENT REGULATION

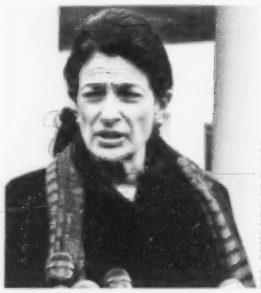
Bill Seeks to Give Feds New Security Powers

TWO U.S. SENATORS last week proposed legislation that would give federal officials new powers to create and enforce data security standards for key parts of the private sector — and even shut down systems in some cases.

The Cybersecurity Act of 2009 would empower the National Institute of Standards and Technology to set "measurable and auditable" security standards for all networks and systems run by federal agencies, government contractors and businesses that support critical infrastructure services.

NIST would also be charged with developing a standard for testing and accrediting software built by or for those groups. In addition, the bill would enable the president to order that critical infrastructure networks be disconnected in the event of cybersecurity emergencies or for reasons of national security.

The bill, which was introduced by Sens. Jay Rockefeller (D-W.Va.) and Olympia Snowe (R-Maine), doesn't specifically define what would qualify as a critical network or system.



"It is abundantly clear we must unite on all fronts to confront this monumental challenge.
SEN. OLYMPIA SNOWE (R-MAINE)

But in a statement, Rockefeller cited a broad set of examples. "We must protect our critical infrastructure at all costs," he said. "From our water to our electricity, to banking, traffic lights and electronic health records — the list goes on."

Snowe added that the public and private sectors "must unite on all fronts," and she warned of a possible "cyber-Katrina" if action isn't taken quickly.

The bill "loosely parallels" a set of cybersecurity recommendations released in December by an outside commission that was set up by the Washington-based Center for Strategic and International Studies, Snowe noted.

Another provision would require the development of a licensing and certification program for government and private-sector security professionals. Meanwhile, a companion bill calls for the addition of a national cybersecurity adviser within the Executive Office of the President.

But Brian Chess, chief scientist at security vendor Fortify Software Inc., isn't convinced that new regulations aimed at the private sector will improve data safeguards. "Security is an attitude," he said, "and it's hard to legislate attitude."

— Jaikumar Vijayan, with Grant Gross of the IDG News Service

Short Takes

- Microsoft Corp. warned late last week that hackers are exploiting a vulnerability in its PowerPoint presentation application that could allow an attacker to take control of a victim's PC. There is no patch for the bug.
- Intel Corp. has transferred ownership of its Linux-based Moblin operating system to the nonprofit Linux Foundation. Moblin is designed for use in netbook computers and mobile devices.
- Former AOL LLC CEO Jonathan Miller has been appointed chairman and CEO of News Corp.'s digital media group. Miller will oversee all of the media company's Web properties, including its MySpace Inc. social networking unit.
- Longtime Progress Software Corp. executive Richard Reidy was promoted to CEO, replacing Joseph Alsop, who cofounded the company in 1981. Reidy, who had been chief operating officer, co-developed Progress Software's OpenEdge development tools.

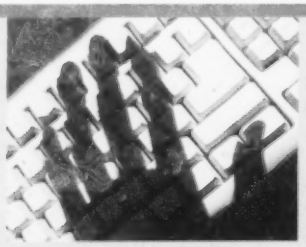
SECURITY

China Denies Playing Role in Cyberspy Ring

CHINESE OFFICIALS last week denied suggestions that China's government is involved in a cyberespionage ring that has attacked foreign government computers from servers mostly based in that country.

"Some people are keen to make up rumors about so-called Chinese Internet spies," said foreign ministry spokesman Qin Gang. "Their statements are entirely fabricated."

Qin was responding to a report on an investigation into a spy ring, dubbed GhostNet. The report found that servers in China were collecting data from 1,295 hacked computers in more than 100 countries.



The report by the SecDev Group, a consulting firm, and the Munk Center for International Studies at the University of Toronto said that GhostNet attackers gained full access to computers installed in foreign ministries and other sites around the world. The attackers stole documents and gained control of microphones and webcams.

The researchers cautioned that while servers in China collected the data, there is no proof that the Chinese government was involved.

However, the report did note that since the 1990s, China has tried to use cyberspace as part of its military strategy.

– JEREMY KIRK AND OWEN FLETCHER, IDG NEWS SERVICE

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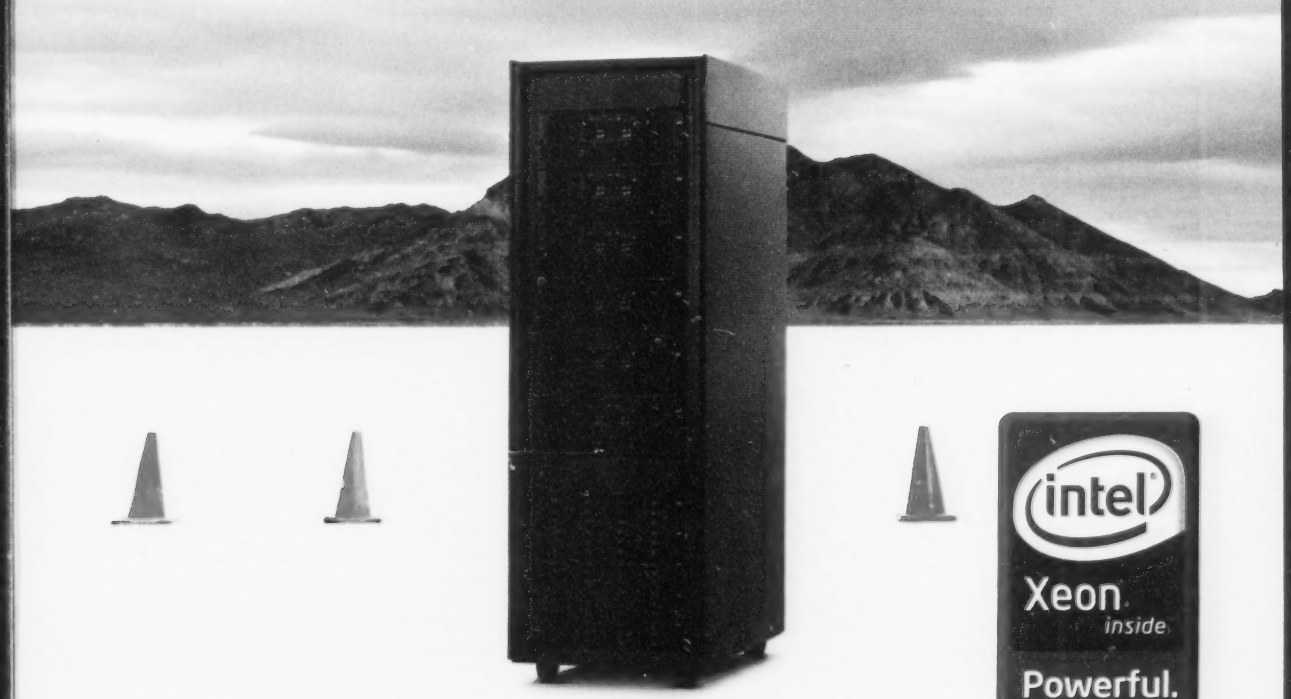

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CLOUD COMPUTING

Microsoft Executive Blasts 'Open Cloud Manifesto'

A SET OF principles promoting cloud computing interoperability was sharply criticized by a Microsoft Corp. executive just days before its formal release last week.

Steven Martin, Microsoft's senior director of platform product management, said in a blog post before Sunday's unveiling of the Open Cloud Manifesto that the document was created in secret and that the company was asked to sign it without a chance to offer revisions.

He said that while Microsoft supports the need to create guidelines for cloud interoperability, it was "admittedly disappointed" in the process used to create the manifesto.

Nonetheless, the manifesto retains the backing of top technology vendors such as IBM, Sun Microsystems, VMware, Cisco Systems, SAP and EMC.

The six-page document contains six principles, which, among other things, call for the use of standards when creating cloud computing technologies and for vendors not to use "their market position to lock customers into their particular platforms."

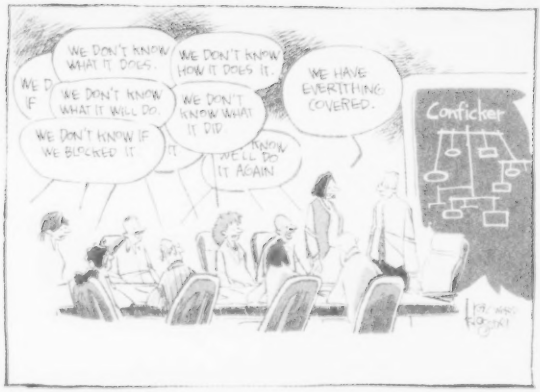
Reuven Cohen, founder and chief technologist at cloud computing start-up Enomaly Inc. and an author of the manifesto, said he was surprised at Microsoft's strong criticism.

Cohen said he and the other authors of the manifesto, whom he declined to identify, had "been in active discussions with Microsoft about the Open Cloud Manifesto" and that the company was one of the first to review it.

Stephen O'Grady, an analyst at Seattle-based RedMonk, called the manifesto "aspirational" and a step in the right direction in tackling potential barriers to the spread of cloud computing.

— Chris Kanaracus and Elizabeth Montalbano, IDG News Service

BETWEEN THE LINES *By John Klossner*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BENCHMARKS LAST WEEK

Intel Corp. released its quad-core Xeon 3500 and 5500 processors, which are based on the chip maker's Nehalem microarchitecture and designed for use in servers and workstations.

Silicon Graphics Inc., which had annual revenue of nearly $4 billion in the mid-1990s, filed for bankruptcy and agreed to sell its assets to Rackable Systems Inc. for $25 million.

THREE YEARS AGO: Apple released a beta version of Boot Camp, its software that enables Intel-based Macintosh systems to run Windows natively.

Global Dispatches

Lenovo, Microsoft Win Netbook Deals

SYDNEY, Australia – The New South Wales Department of Education and Training has awarded $150 million (Australian) in contracts to Microsoft Corp. and Lenovo Group Ltd. to supply 267,000 netbook computers and software for students and teachers in the state.

"Production of the laptops for 200,000 senior secondary school students and 25,000 secondary teachers will begin immediately," said Nathan Rees, premier of New South Wales. "I want them in classrooms as soon as possible."

Lenovo said its share of the project will include about 220,000 IdeaPad S10e netbooks running Windows XP.

Microsoft and Morrisville, N.C.-based Lenovo were selected after an "extremely competitive tender process" that started last December, the agency said.

Rodney Gedda, Computerworld Australia

Satyam to Sell Stake by April 30

MUMBAI, India – Satyam Computer Services Ltd. late last month said in a filing with Indian regulators that it plans to select a winning bidder for a majority stake in the scandal-wracked company by April 30.

Satyam also told the Securities and Exchange Board of India that the buyer will have to retain 100 key Satyam employees for 12 months and agree not to sell any material assets for two years.

The board is selling a 51% stake in the company as part of an effort to keep it in business following a January disclosure that Satyam's profits had been overstated for several years.

John Ribeiro, IDG News Service

BRIEFLY NOTED

Qantas Airways Ltd. last week disclosed that it has eliminated its CIO position as part of a corporate restructuring. The Mascot, Australia-based company said that departing CIO Jamila Gordon's duties will be assumed by David Hall, executive manager of corporate services and technology.

Darren Pauli, Computerworld Australia

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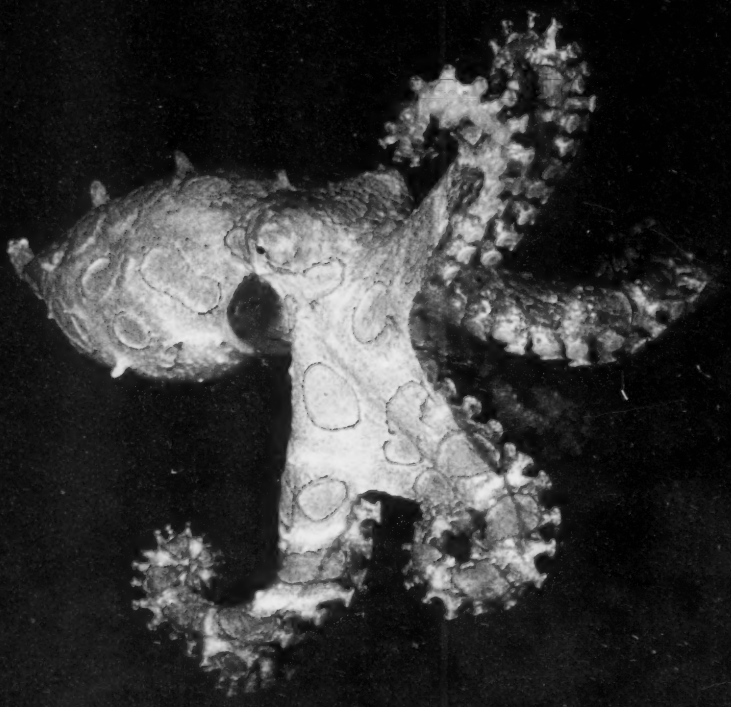

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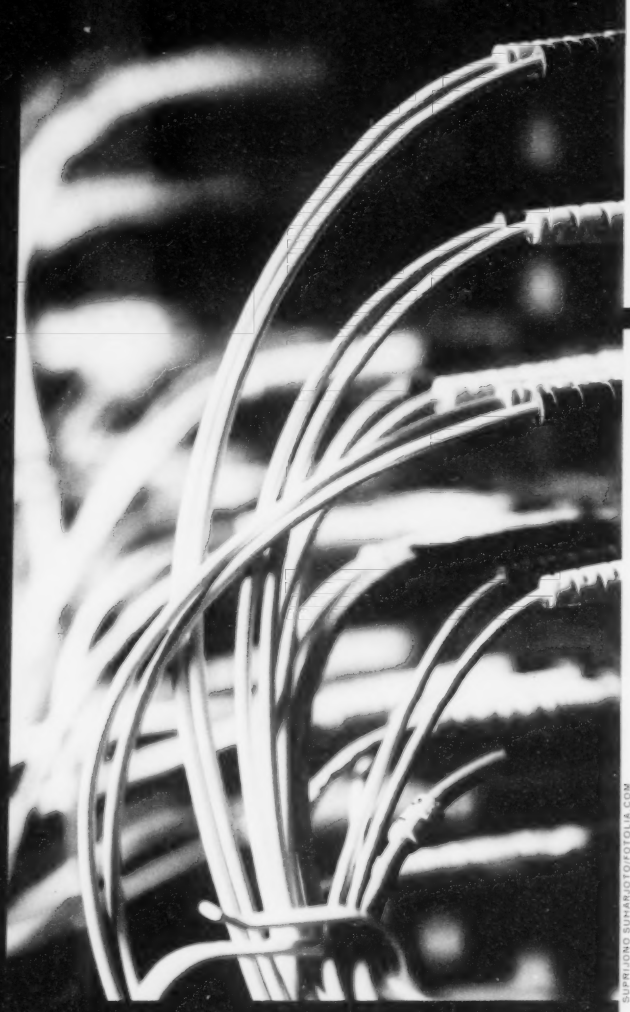


SUPRIJONO SUHARJOTO/FOTOLIA.COM

POWER PLAY: Data Centers Brace for Obama's New Energy Plan

The president's proposed 'cap and trade' program on carbon emissions may have big implications for power-hungry IT facilities.

By Patrick Thibodeau

DATA CENTERS are part of the greenhouse gas problem, and their operators may soon start paying to help fix it under President Barack Obama's proposed cap-and-trade energy plan.

The cap-and-trade scheme is designed to impose higher costs on power generators that don't use so-called clean energy sources. The government would cap overall carbon dioxide emissions and then auction off permits enabling companies to exceed the limits — essentially adding an indirect tax on some forms of energy, such as coal-fired electricity.

Power bills likely would increase as utilities forced to buy the permits passed the added costs on to their customers. And over time, the pool of permits would decrease, sending electricity costs further upward unless generators switched to cleaner energy sources.

The White House has yet to detail the mechanics of its cap-and-trade plan, and a major battle is expected in Congress. But Obama appears to be committed to the idea. His proposed budget for the next fiscal year includes funding for a cap-and-trade program. And at a March 24 press conference, he reaffirmed his support for the new approach, saying that it would start "pricing the pollution that is being sent into the atmosphere."

Data centers clearly are among the facilities that would be in the bull's-eye of a cap-and-trade program — either directly or indirectly.

"It's a new metric for the data center, and [IT managers] must deal with it," said Luke Leung, director of building services engineering at A. Epstein and Sons International Inc., a building design and construction firm in Chicago.

Leung has run some estimates of what a cap-and-trade rule might mean for a 100,000-square-foot data center. Assuming that the facility emits about 16,800 tons of carbon annually, it could see additional costs of $252,000 per year if emissions permits are priced at $15 per ton, or $756,000 if they cost $45 per ton, he said.

Costs are expected to vary by region, though. For instance, Leung said that carbon costs likely would be higher in Chicago, which relies heavily on coal, than in New York, where nuclear power is more prevalent.

Even though the outcome of the congressional debate is unknown, Jim Smith, chief technology officer at Digital Realty Trust Inc., is already preparing for the advent of cap-and-trade.

Digital Realty, a data center operator in San Francisco,

runs 75 IT facilities in the U.S. and Western Europe. Smith's goal is to ensure that he has all the information he needs to understand the potential impact of a cap-and-trade program on the company. That includes being able to meter energy consumption to the point where he can specifically see how power is being used inside the data centers.

With more accurate and detailed consumption data in hand, Smith said he could then ask his staff members this question: "If this is the new landscape, how is it going to affect our business?"

Digital Realty's response to a cap-and-trade program may include focusing on states with lower power costs for data center expansions and new facilities. For instance, the company has seven data centers in Virginia. But that state generates a lot of its power from coal. If electricity costs go up significantly under a cap-and-trade approach, "we're going to stop investing in Virginia," Smith said.

In Nebraska, the Omaha Public Power District charges residential consumers 7 to 8 cents per kilowatt-hour, putting it on the lower end of the electricity cost scale nationwide. But a cap-and-trade program would likely increase rates because the utility gets 60% of its energy from coal, said Marc Nichols, who is in charge of sustainable energy and environmental stewardship at Omaha Public Power.

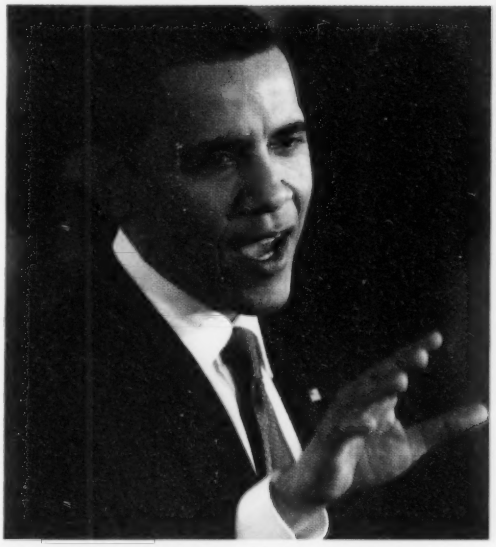
For the utility, cap-and-trade "will do nothing but increase the cost of the product dramatically," said Nichols, who worries that prices may have to be raised by as much as 50% to 100%.

In January, Omaha Public Power announced a plan to generate 10% of its electricity from renewable sources by 2020, with a substantial portion of that expected to come from wind power.

Nebraska has some built-in advantages for pursuing renewable energy: It's the sixth-windiest and ninth-sunniest state in the U.S. And with its low power costs as a lure, the state is actively working to attract data centers. For instance, Yahoo Inc. said last fall that it planned to spend at least $100 million to build a data center in an Omaha suburb.

But Nichols said there are concerns about the reliability of wind and solar power because they're dependent on environmental conditions. "We need some time to develop additional technologies that will help us reduce carbon," he added.

A cap-and-trade program may force companies to take additional steps beyond looking for low-cost-energy locales in which to build or expand data centers.



GERALD HERBERT/AP PHOTO

"We have got to move to a new energy era. And that means moving away from polluting energy sources toward cleaner energy sources.

PRESIDENT BARACK OBAMA, SPEAKING DURING HIS MARCH 24 PRESS CONFERENCE AT THE WHITE HOUSE

CLOUDS ON THE HORIZON

Some businesses may be tempted to shift processing workloads to Google Inc., Microsoft Corp. and other cloud computing vendors that are building IT facilities in areas with relatively clean power sources, said Tad Davies, executive vice president at Bick Group, a St. Louis-based designer and builder of data centers.

In addition, companies that have backup data centers in areas with cheaper energy might opt to develop internal clouds so they could easily shift computing resources to those facilities, Davies said.

Higher energy costs also could be used to justify full IT outsourcing moves. "Every data center manager and CIO is asking that question anyway," Davies noted.

It's possible that data centers could be directly affected by cap-and-trade regulations targeting their energy use. If so, a big question is whether the rules would apply to corporate data centers or only to commercial ones offering hosting, collocation and disaster recovery services, said Tom Deaderick, director of OnePartner LLC's commercial IT facility in Duffield, Va.

A couple of things may work in Deaderick's favor if cap-and-trade does become a reality. First, OnePartner gets its electricity from the Tennessee Valley Authority, which uses hydropower to generate much of the energy it produces. And Deaderick said the company's data center, which was completed last year, was built with efficiency in mind; among other features, it has the means to accurately measure its energy usage.

But there's no way to accurately gauge the potential impact of a cap-and-trade initiative. "Everything is depending on how they arrange these regulations," Deaderick said. "It could go a lot of different ways."

There is a sense of inevitability among analysts, though, that the White House and Congress eventually will agree on a new energy-pricing plan.

"Anticipating zero-carbon pricing . . . those days are gone," said Pat Concessi, an energy consultant at Deloitte Touche Tohmatsu. ■

IT Was Ready for A Conficker Attack

The widespread publicity about the bug prompted managers to take extra care.

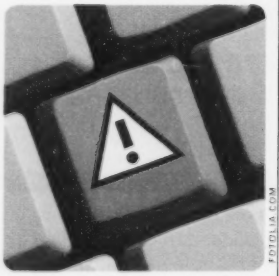
By Jaikumar Vijayan

AN EXPECTED April 1 activation of the Conficker.c worm passed without incident, calming widespread fears that the Internet was in danger of attack.

In the days prior to April 1 — the date that the worm was supposed to get instructions from its unknown creators — IT security managers acknowledged that they were concerned but said they were confident that their teams could deal with an attack.

For the most part, companies patched the vulnerability that the worm exploits and updated anti-malware and intrusion-detection software to protect against the threat.

Matt Kesner, chief technology officer at Fenwick & West LLP, said the San Francisco-based law firm took the Conficker.c threat more seriously than most other viruses and worms because security analysts had said it is unusually well-written and is programmed to quickly respond to security countermeasures.



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Conficker.c is the third version of a Windows bug, also known as Downadup, that first surfaced in Windows-based PCs last November. In January, a second variant of the worm infected many more PCs. Conficker.c surfaced last month and quickly caused significant concern because of its ability to "armor and harden the existing infections," said Vincent Weafer, vice president of Symantec Corp.'s security response group.

The latest version, which also includes mechanisms for evading detection, was hard-coded to start contacting its command-and control-servers on April 1, presumably to receive instructions on what to do next. Toralv Dirro, a security strategist at McAfee Inc.'s Avert Labs in Germany, noted that the worm did reach out last Wednesday, but "so far, none of the servers they are trying to reach are serving any new malware or any new commands."

No one is sure how many PCs have been infected by the worm's three versions, though estimates range from 1 million to 12 million.

The mystery surrounding the April 1 instructions — along with a March 29 story on the television news program *60 Minutes* about a possible Conficker attack — attracted the interest of corporate executives.

"The *60 Minutes* segment certainly has caused CIOs to ask about Conficker," said John Pescatore, an analyst at Gartner Inc. "It is just like the old Slammer-Blaster days," he added, referring to a mass worm that hit the Internet several years ago.

Jim Kirby, director of information infrastructure at Dataware Services LLC in Sioux Falls, S.D., said that, despite the hype surrounding Conficker, he was not overly concerned that it would cause problems on April 1. "We have a strong system-update policy and feel largely immune from infection. Close the doors properly, and you don't have to worry so much about the malware of the day," he added.

The information security group for Arlington County, Va., used its emergency alerting system to notify constituents of the threat. In addition, "we've used e-news briefs to educate our employees with regard to the relatively simple means by which they can ensure their home PCs are not infected with this particular malware," said David Jordan, the county's chief information security officer.

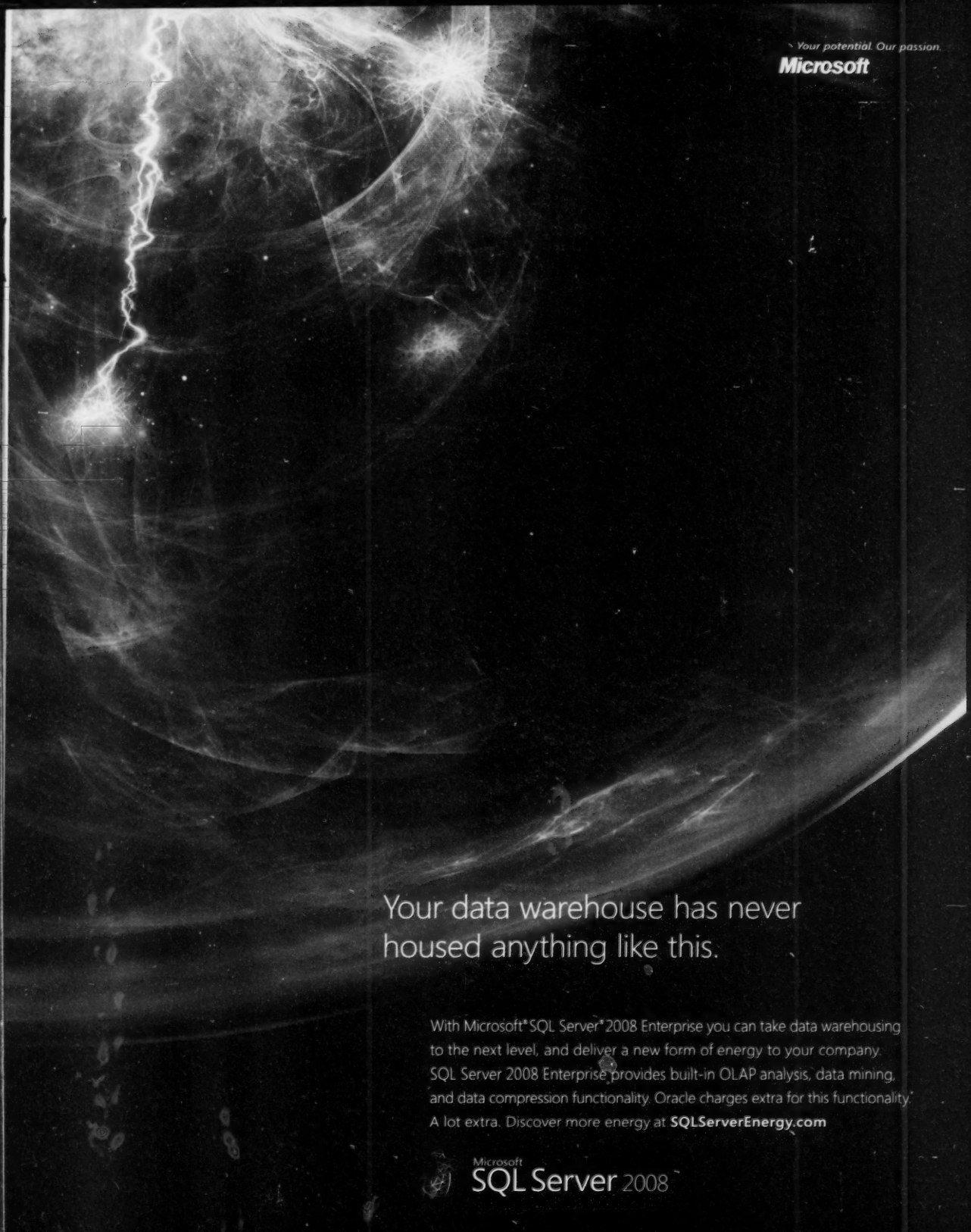
> **"We have excellent [antivirus tools], firewalls and analytical tools. We are a mature practice here in dealing with these kind of things. Our network engineers treat every day as if they were going to see a zero-day incident.**
>
> DAVID JORDAN, CISO, ARLINGTON COUNTY, VA.

Nonetheless, Jordan said he was confident that the county could stave off an attack by the worm. "We have excellent [antivirus tools], firewalls and analytical tools. We are a mature practice here in dealing with these kind of things. Our network engineers treat every day as if they were going to see a zero-day incident."

David Marcus, security research manager at McAfee Avert Labs, said that despite all the publicity, the Conficker worm is really no different from other malware except for the degree to which it is being "actively maintained" by its creators.

"Functionality-wise, I don't think it presents any new challenge," he said. "It's a pretty wily piece of software," but one that can be managed like other threats. ■

Gregg Keizer *and the IDG News Service's* **Sumner Lemon** *contributed to this story.*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Dossier

Name: Biz Stone

Title: Co-founder

Organization: Twitter Inc.

Location: San Francisco

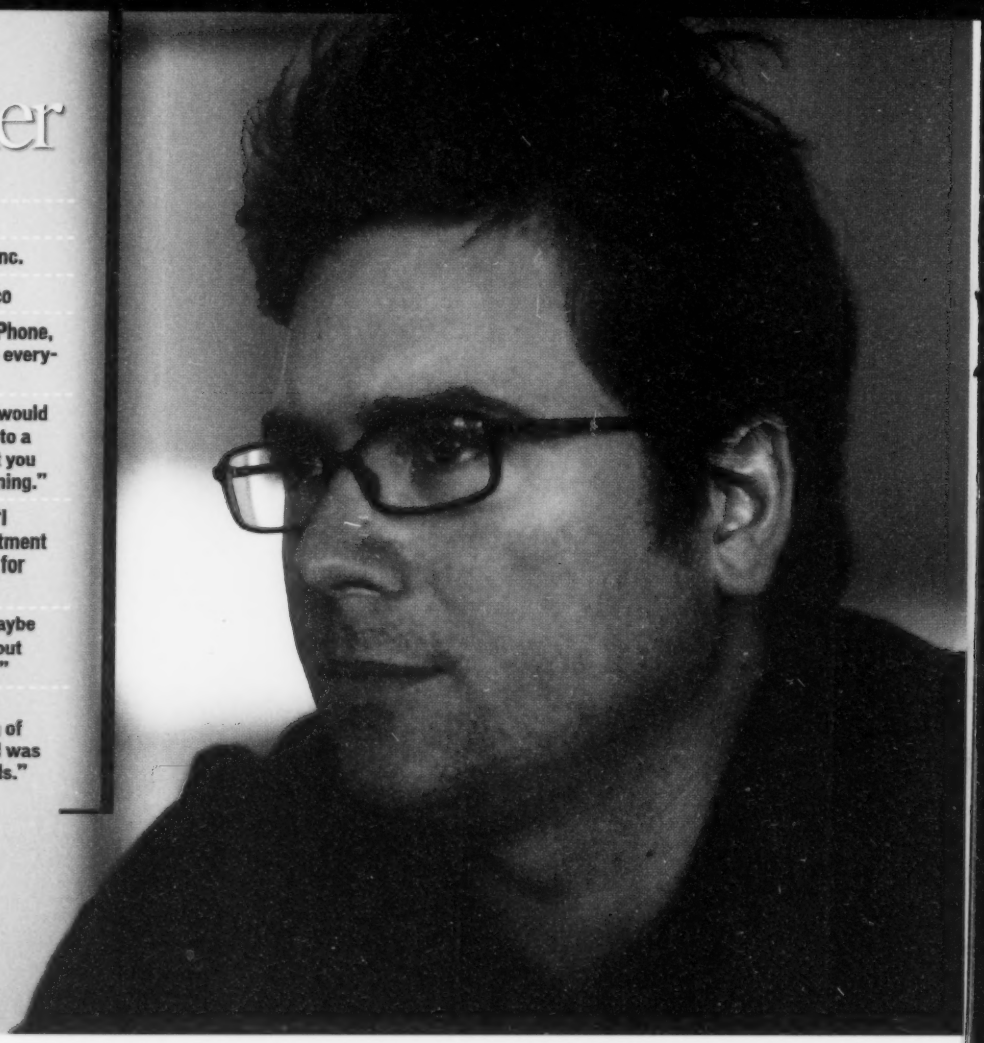
Favorite gadget: "My iPhone, since I bring it with me everywhere."

Guilty pleasure: "That would be skipping work to go to a movie matinee. It's just you at 11 o'clock in the morning."

Favorite previous job: "I worked at an art department designing book jackets for Little, Brown and Co."

Job he'd like to try: "Maybe a film director. How about a foreign film director?"

In high school, he was: "A misfit. I was captain of the lacrosse team, but I was friends with all the nerds."



■ THE GRILL

Biz Stone

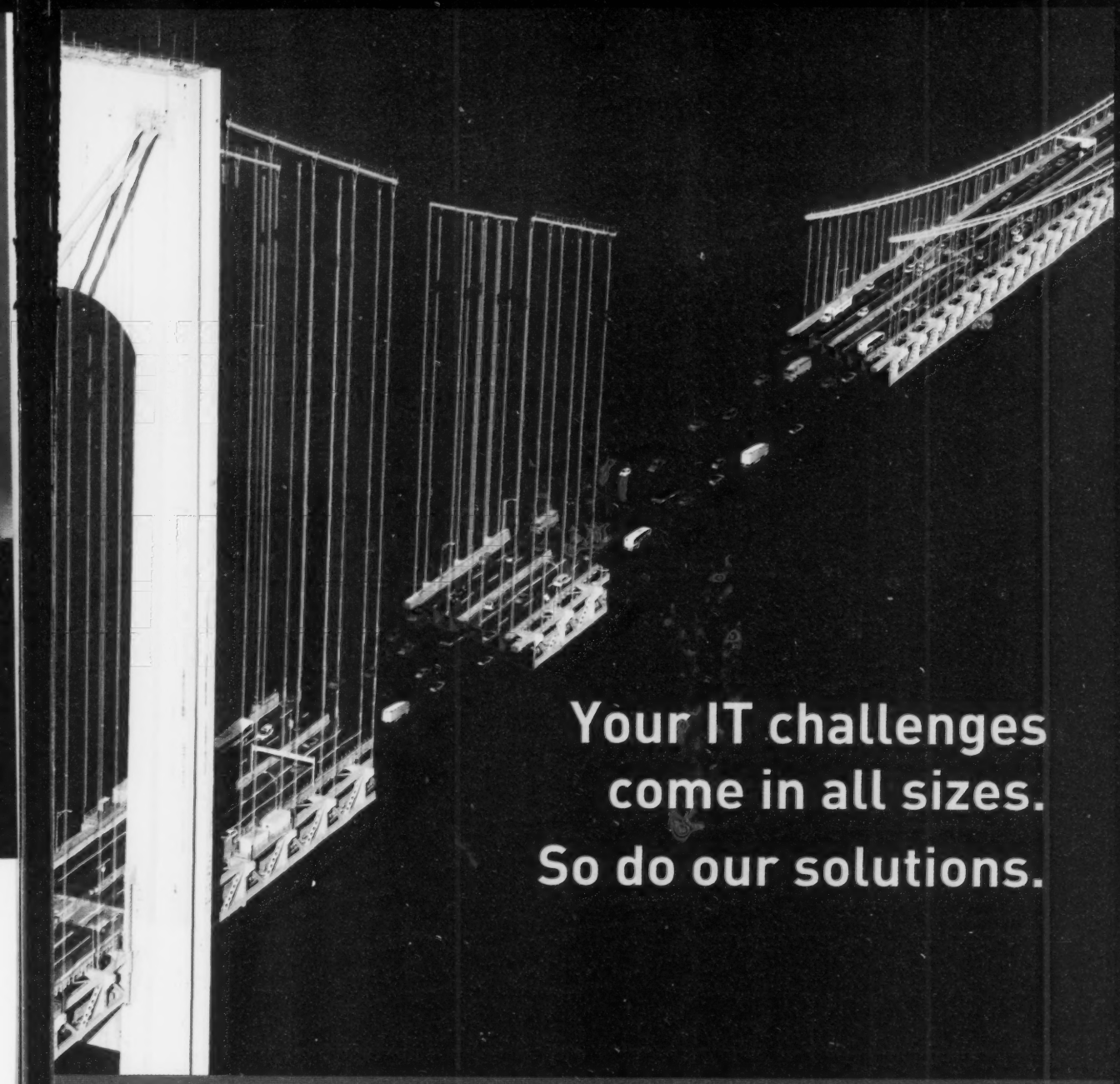
Twitter's co-founder talks about **the vision and the reality,** plans for the future and **favorite tweets.**

When you guys were first dreaming up Twitter, what did you want it to be? And how different is the reality than what you had envisioned? It grew much bigger much faster. But it's fairly close to what we had envisioned. We envisioned being able to, at a glance, see what friends and colleagues were doing. We wanted it to be a freeing way of communicating. We were actually inspired by looking at an AOL IM buddy list. If you just look at the status messages, they're like "Out getting coffee," or "Out sick," or "Too busy to talk." We were thinking about that simple information, and our co-founder Jack Dorsey had a history in dispatch for ambulances and such. He had an interest in knowing at a glance where people were and what their status was. We knew there was a benefit to putting this information together. We also knew that having access to these seemingly trivial bits of information was not trivial. Each bit of information is kind of insignificant, but having access to it all is a powerful tool.

Why did you choose 140 characters? Why not 135 or 17? SMS has a limit of 160 characters, and we wanted to save 20 characters so you could see the name of the person who wrote the update. We wanted you to be able to read the update on any device and not have the piece cut off partway.

A lot of people say Twitter has changed

Continued on page 20



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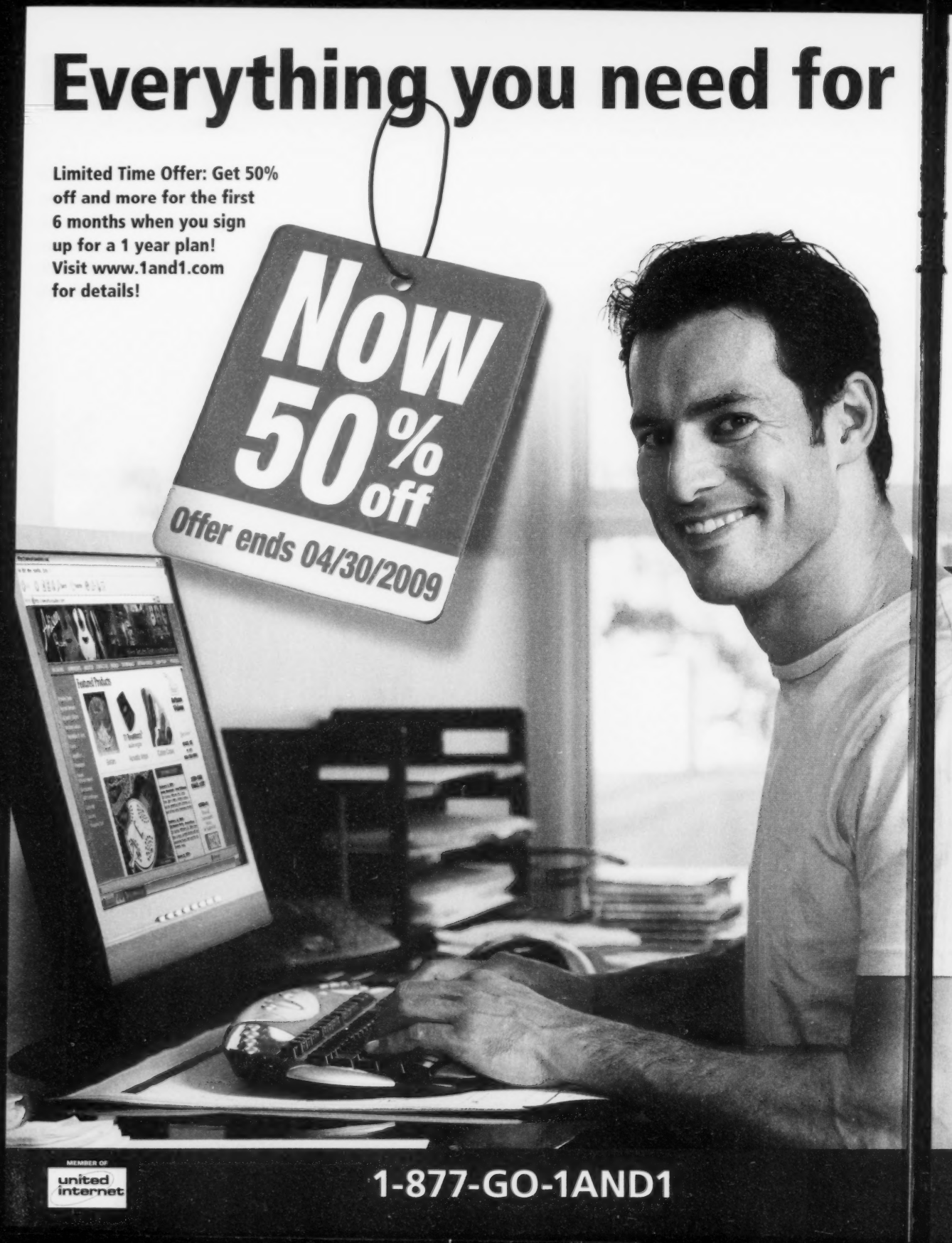
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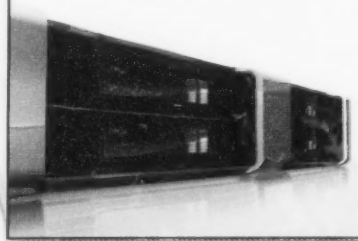

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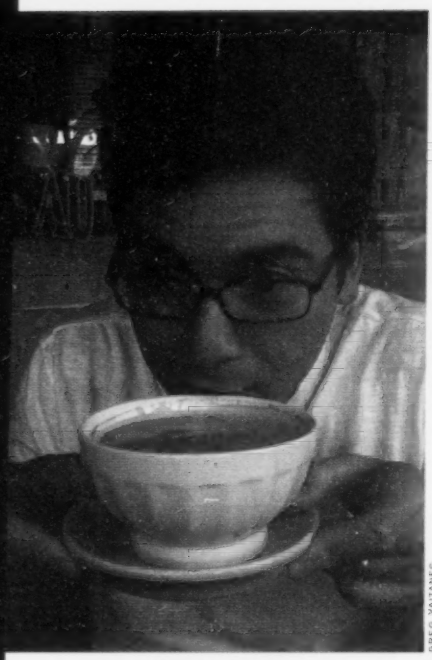

FRED YATANES

“Each bit of information is kind of insignificant, but having access to it all is a powerful tool.

Continued from page 16

the Internet. What's your take on that? I think it does have the potential to really expand it. What inspires me is to expand the power of a real-time network to the weakest of signals around the world. We've had these great user cases, like this guy who got himself out of jail in Egypt. Farmers checking in and saying, "This is what price I'm getting for my grains. Is this a good price?" I think we can extend this a lot more and build it into mobile in a unique and compelling way. SMS is on every phone and super simple.

How do you plan on making it more mobile? Right now, anyone in the world can update their Twitter through SMS, but we only send out updates on SMS in the United States. We receive them from everywhere, but we only send them in the U.S., and that's because of cost. We need to go to each country and negotiate a deal that makes sense for us. That's one way we're going to expand the mobile aspect of Twitter.

I recently heard someone say that Twitter guides his life. What do you think about that kind of devotion? I think people refer to Twitter, but I really think that the better we are about creating a stable, useful communication platform, the more we can just get out of the way. I don't know if Twitter guides his life as much as the connections and the information [do]. It's about the triumph of humanity. If we can create a great, robust platform and then get out of the way so people can help each other after earthquakes or during gas shortages — I think it's all about people just being able to communicate with people.

What new features would you like to add in the next few years? We want to bring search in a lot more, make it a lot more evident. It's sort of hiding out in its own little subdomain. We want to bring it to everyone's attention. And people are asking for lists and ways for people to form groups.

Where do you see Twitter in 2020 or 2025? The goal is to really build a robust and reliable network that can be built upon and can enable people to do everyday things great or small. If we do our jobs right, it becomes an important utility. By 2020, maybe people won't realize they're using Twitter, but they'll be using it every day. I want it to be a successful, sustainable company.

Will there be ads on Twitter? There will be some form of commercial usage, but I don't think we're looking at traditional Web ads, like banner ads. There's a lot of commercial use on Twitter already, like JetBlue and Whole Foods and Dell. There's more validity in introducing more commercial usage other than ads. The short answer is no. No ads on Twitter, not right away anyway.

What do you see as the future of your relationship with Facebook? I'm not sure exactly just yet. We really like what they're doing over there. Some of the more obvious stuff is to take advantage of Facebook Connect and put that into Twitter. You could be on Twitter and see who on Twitter is also on Facebook, so you could follow people that you're friends with on Facebook. We're working on it now, but I don't actually have a timeline for when it will be launched.

How many times a day do you Twitter? I only do it two to three times a day. If I'm doing something out of the norm and I think, "Oh, this is interesting," I'll Twitter about it.

A lot of what people Twitter about is how good their morning cup of coffee was or if they got a great parking spot at work. Why are we so interested in that stuff? When we first got started and we didn't know where we were headed, we positioned it as a way to stay updated with seemingly insignificant updates about the day. But it's become the pulse of what's happening in the world. It can be as big as terrorist attacks in Mumbai or as nano as eating a sandwich. But your mom might want to know that you're eating something good. But you can also tune in to Twitter to find out what's happening with some major event by using search. You can throw some friends in there along with an airline and a news agency, and then you'd get a pretty interesting timeline going. You can look at it as trivial or as a pulse of information. It depends on how you customize it.

Do you have a favorite Twitter topic? I've seen a bunch of stuff, like people Twittering in haiku form, which is interesting. I see emergent patterns, like people playing games on Twitter. A bunch of folks played a *War of the Worlds* type of game. Somebody started it, saying, "Space ships are landing outside my house," and it turned into this massive pickup game. I think my favorite topics are those that emerge.

— *Interview by* **Sharon Gaudin**

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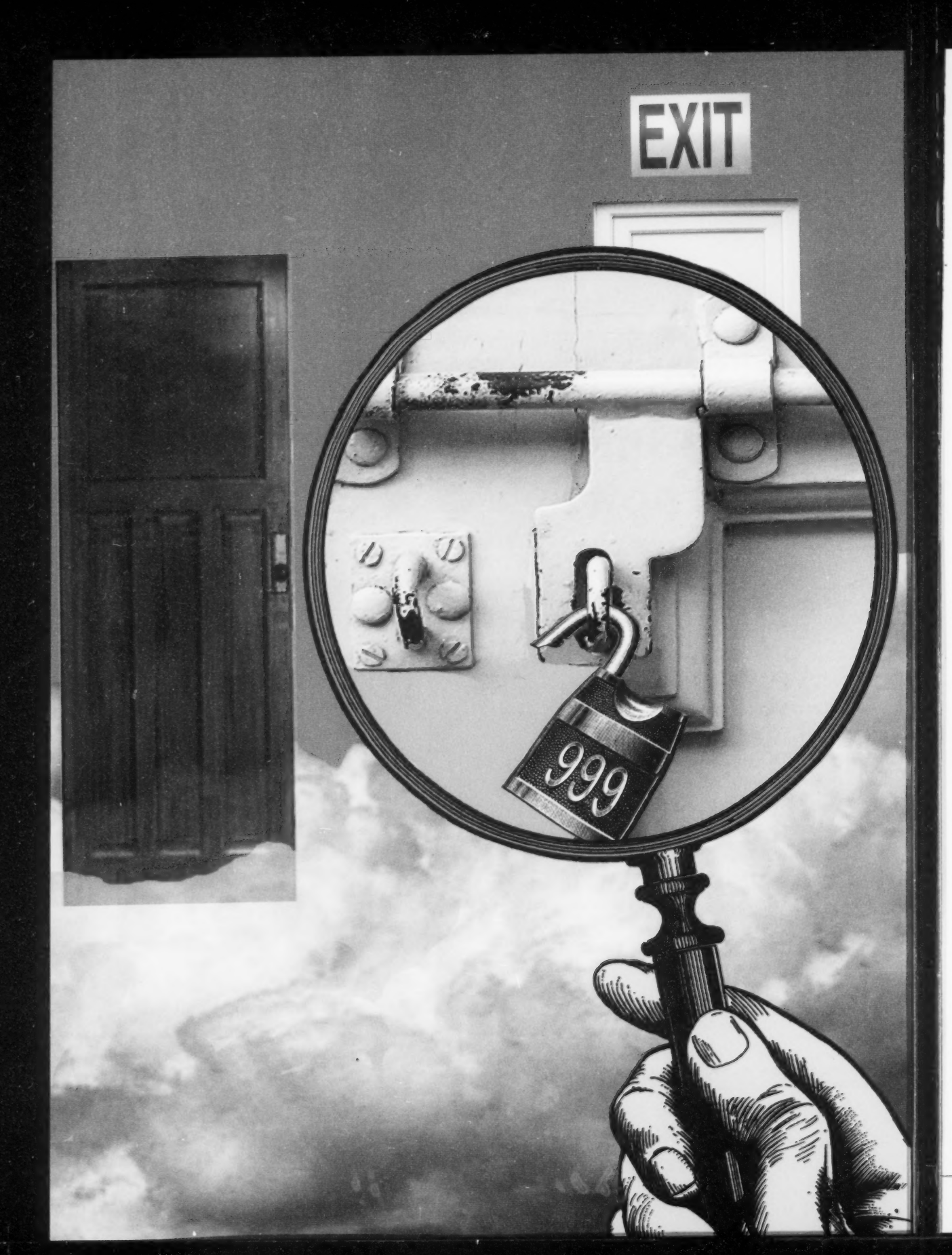
EXIT
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Exit Strategy

Before you trust your business to the cloud, be sure you know how to get out. **By Mary Brandel**

When the IT world looks back at 2008, it will certainly remember the global financial crisis. But it will also likely link that time frame with the takeoff of cloud computing — the engine behind more conferences, conversations and marketing collateral than seemingly any other technology in development today.

But amid all the hubbub about whether and how to get into the cloud, there's growing concern about how to get out.

Vendor lock-in is one of the primary fears expressed by IT leaders considering a move to the cloud. And the recent announcement that Coghead Inc., maker of a cloud-based enterprise application development system, is closing has exacerbated that fear.

Cloud computing is an architecture in which companies consume technology resources as an Internet service rather than as an owned system. Much of the fear of lock-in is caused by misconceptions, says John Willis, a systems management consultant who blogs about IT management and cloud computing. When people talk about lock-in, they often don't distinguish among the several cloud types that exist, each of which requires varying levels of commitment (see chart, next page).

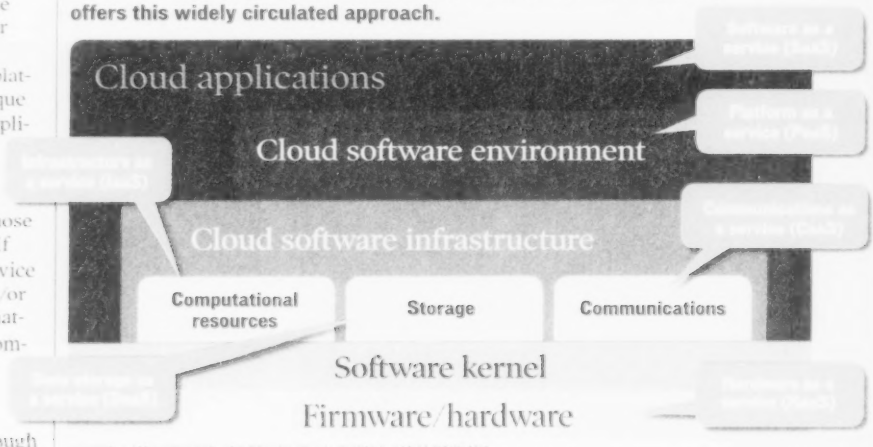
Moreover, he says, the degree of lock-in needs to be weighed against the advantages of using the system. "People wind up saying things like, 'The cloud is dead because of lock-in.' Well, what cloud are you talking about? I can give you five scenarios where lock-in is an issue and five others where it isn't," Willis says.

While some vendors debate whether lock-in exists, most agree that there are technical reasons for concern.

FRANKLIN HAMMOND

A Cloud Taxonomy

There's no agreement yet on how to view the various approaches to cloud computing, but the University of California, Santa Barbara, offers this widely circulated approach.



SOURCE: LAMIA YOUSEFF, UNIVERSITY OF CALIFORNIA, SANTA BARBARA

A lack of standards hampers the portability of data and applications between systems, says James Staten, an analyst at Forrester Research Inc. And though the popular hype implies that moving to the cloud doesn't require any heavy lifting, that's not true for some forms of cloud computing.

Particularly with software and platform as a service, vendors use unique and proprietary user interfaces, application programming interfaces (API) and databases. To take full advantage of a system, users or third parties need to program to those specifications to varying degrees. If they grow dissatisfied with the service or the vendor goes under, data and/or applications will need to be reformatted to be moved, which could be complex and costly.

"If you deploy to any cloud out there, some degree of your deployment is tied to the vendor, through the unique virtual machine or APIs you write to, or the unique configuration or composition of the application," Staten says.

"You've made a choice to be involved in a certain ecosystem," notes Michael Crandell, CEO of RightScale Inc., a cloud infrastructure provider. "There are APIs and platforms in the cloud world that create a walled garden. You get the benefits of that garden, but you're also restricted."

Technical issues aside, lock-in is also an emotional issue, says René Bonvanie, senior vice president at Serena Software Inc., which provides a cloud-based application life-cycle management system and runs most of its own business on the cloud. He argues that data housed in traditional systems such as those of SAP, Oracle or Microsoft is just as locked in as data in any cloud system, but people are more concerned about cloud computing because the systems are not on their own premises.

"The common misperception is that because data is within reach, it's somehow more accessible than when it's remote," Bonvanie says. "But the reality is that it's like money: If it's in a vault, it doesn't matter where the vault is. It's locked up, regardless."

Exacerbating this fear is the immaturity of the cloud market, Staten says, adding that IT leaders can't help but ask, "When the shakeout comes, is this vendor going to make it?"

That's the case for Christopher Barron, CIO at CPS Energy. "We are very concerned about being locked into a vendor for a multiyear time period without knowing if they have the capability to serve us properly," he says.

For that reason, Barron is moving into cloud computing slowly, choosing certain processes that fit into this architecture without requiring him to commit the entire enterprise to the cloud. "By taking it in pieces, we can experiment, tune and adjust while mitigating a large financial commitment risk," he says.

"Vendor viability is less of a concern if you're using it for a short-term project like a promotional service or an application you want to test," Staten adds.

STAYING OUT OF THE VAULT

Another way to approach the lock-in conundrum is to use Willis' rule of thumb: The higher you go in the cloud taxonomy, the higher the risk of lock-in.

With cloud storage, for instance, data is easily transportable because it's stored in Linux servers, he says, but cloud software and platforms come with nonstandard APIs, system calls and other proprietary technologies.

A case in point is Microsoft's Azure Services Platform, which provides an operating system and a set of developer services to build cloud-based applications (see story, page 28).

As Staten points out, with Azure, users write to a set of cloud services in a way that's different from writing to the same services deployed in their own environments. The calls to the SQL database, he explains, are different from the calls in Azure. To move to a different provider, users would have to understand how to translate those API calls into SQL Server calls, he says.

To minimize the complexity and cost of doing that, Staten says, cloud users should try to touch proprietary and nonstandard elements as lightly as possible. That's what RightScale claims to pull off with its management tools, which work with a variety of cloud infrastructure providers, such as FlexiScale, GoGrid and Amazon.com.

As Crandell explains, RightScale's tools create an abstraction layer on top of these services, which effectively minimizes user reliance on proprietary technology and makes its tools portable across providers. "We shield companies from having to write a specific solution for, say, Amazon and then have to rewrite again for each cloud," he says.

What's more, Crandell adds, Right-

Continued on page 26

Managers spend up to two hours
every day searching for information,
over half of which has no value to them.
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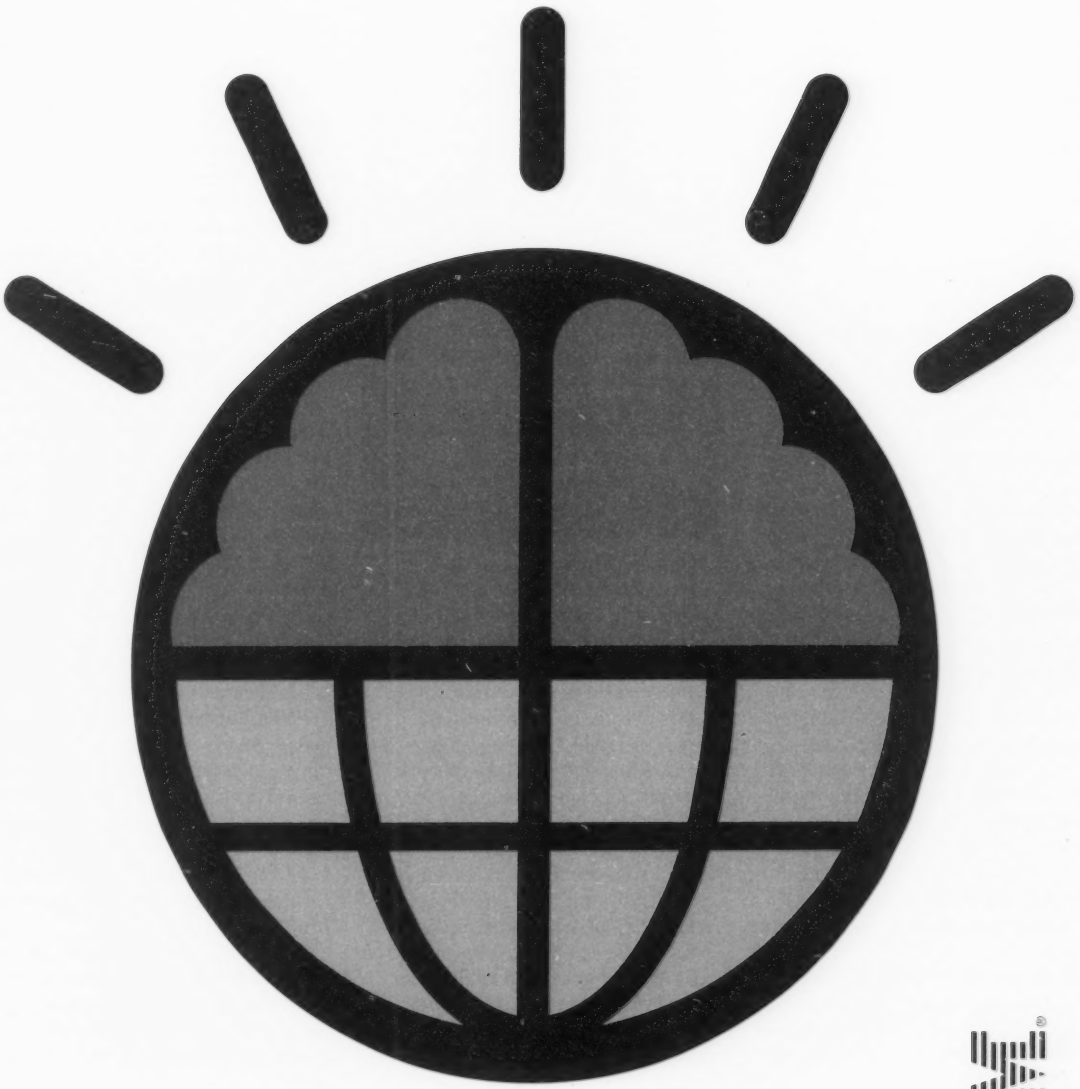

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Continued from page 24

Scale's source code is available to users, so if they wanted to move away from RightScale, they could.

Christian Taylor, CEO of MeDeploy, says he appreciates the flexibility of RightScale's approach. Hamden, Conn.-based MeDeploy offers an infrastructure that allows film distributors to build online ecosystems to distribute and sell films. The system is based on Amazon's EC2 (Elastic Compute Cloud) and is managed with RightScale tools.

"If anything, [moving away from EC2] would be easier than [exiting] an on-premises system," Taylor says. "It uses standard hardware, so if a competitor made us think of switching to a different cloud, we could just set up a whole other cloud system, load it up and then switch over."

THE RISK-BENEFIT DANCE

Avoiding the proprietary aspects of a vendor's system really comes down to a risk-benefit trade-off, Staten says. You need to weigh the advantages of using provider-specific technology against the vendor's vulnerability.

Take Salesforce.com Inc., which uses a proprietary programming language and its own APIs, he says. "Years ago, no one was writing custom applications in Salesforce or leveraging their APIs, because they didn't know if they'd be around," Staten explains. "Now that they've been around 10 years and are well capitalized, those things are in high use."

To determine a vendor's viability, Staten suggests that buyers do in-depth research and ask the vendor to provide, under a nondisclosure agreement, information such as its cash position. He also recommends talking to the venture capitalists backing the company about their commitment to it. In addition, Staten says, ask references whether they're just dipping their toes in the water with the vendor or making a bigger commitment.

Serena Software's Bonvanie also advises companies to specify an exit strategy in their contracts. "The imperative is that you agree with your vendor on what the procedures are for abandoning their application, if needed," he says. For instance, how does data come out, and what is the vendor's involvement in making that happen? How much time do you have to get the data out after service nonrenewal?

In many of its contracts, Serena inserts escrows to regulate what happens to its cloud software vendors' source code if they cease operations. Bonvanie has found that many cloud vendors are more amenable to this than most traditional vendors are.

It's also essential to set policies early on regarding how your company is going to use the cloud and under what circumstances, Staten says. This is especially important when it comes to securing data in the cloud, which often requires customization by the user. "You have to do things above and beyond what the cloud vendor provides to be secure or compliant," he says.

So if you want to use five different cloud vendors, for instance, you need to be sure beforehand that you can customize all five platforms.

Creating these types of policies is not something many companies are doing yet, "because use of the cloud right now is a bit like the Wild West," Staten says.

Over time, standards will develop, most likely driven by customer demand, he says. This won't happen without tension, because customer demand will be offset by the advantages that vendors see in lock-in. For that reason, users need to be adamant about which standards they desire and where they're most important. One crucial area is in using open Web services in application-to-application communication, Staten points out.

Gartner Inc. analyst Richard Ni contends that IT leaders can encourage standards development by ensuring that their teams consider a wide range of vendors and technologies beyond the obvious market leaders. "We will encourage lock-in if we close our eyes to other vendors in the industry," he says. "The CIO has a role to play in ensuring several vendors are involved in the assessment, selection and due-diligence process."

As the hype about cloud computing settles, the hope is that lock-in concerns will grow more measured. That would be a welcome development to Bonvanie, who sees just as much risk with traditional computing systems. In fact, his use of NetSuite Inc.'s Web-based business software and IntAcct Corp.'s Web-based ERP software has convinced him that their interfaces and procedures to retrieve and unload data are easier to use than SAP AG's.

"What gets me nuts is that the same people who are concerned about lock-in in the cloud are not concerned about it behind the firewall or on-premises systems, where people normally run mixtures of three or four different breeds of Unix," Willis notes. "It's much harder to move from AIX to Sun than to move from Amazon to FlexiScale."

Willis looks forward to the day when people stop asking whether the cloud causes lock-in. "It's the wrong question," he says. "The cloud is just the furniture." Instead, Willis says, remove the word *cloud* altogether and ask, "Is there lock-in in the choices I'm considering?" ■

Brandel *is a* Computerworld *contributing writer in Newton, Mass. Contact her at marybrandel@verizon.net.*

Contract Confusion

THERE'S MORE than one way to get locked into a cloud vendor's system. An often-overlooked method is through a contract. As Gartner analyst Richard Ni points out, because cloud computing is seen as a utility that can be turned on and off at will, some people don't look at the terms of the contract, which might specify a commitment of several years. "People don't even realize they've been locked in if they have weak contracting knowledge or expertise," he says. Companies need to ensure that their teams have a full understanding of the contract terms and conditions, Ni warns.

However, Forrester analyst James Staten points out that security customization is yet another way to get locked into a particular vendor, because if you wanted to move to a different provider, you would need to unwind and then redo all that work.

– MARY BRANDEL

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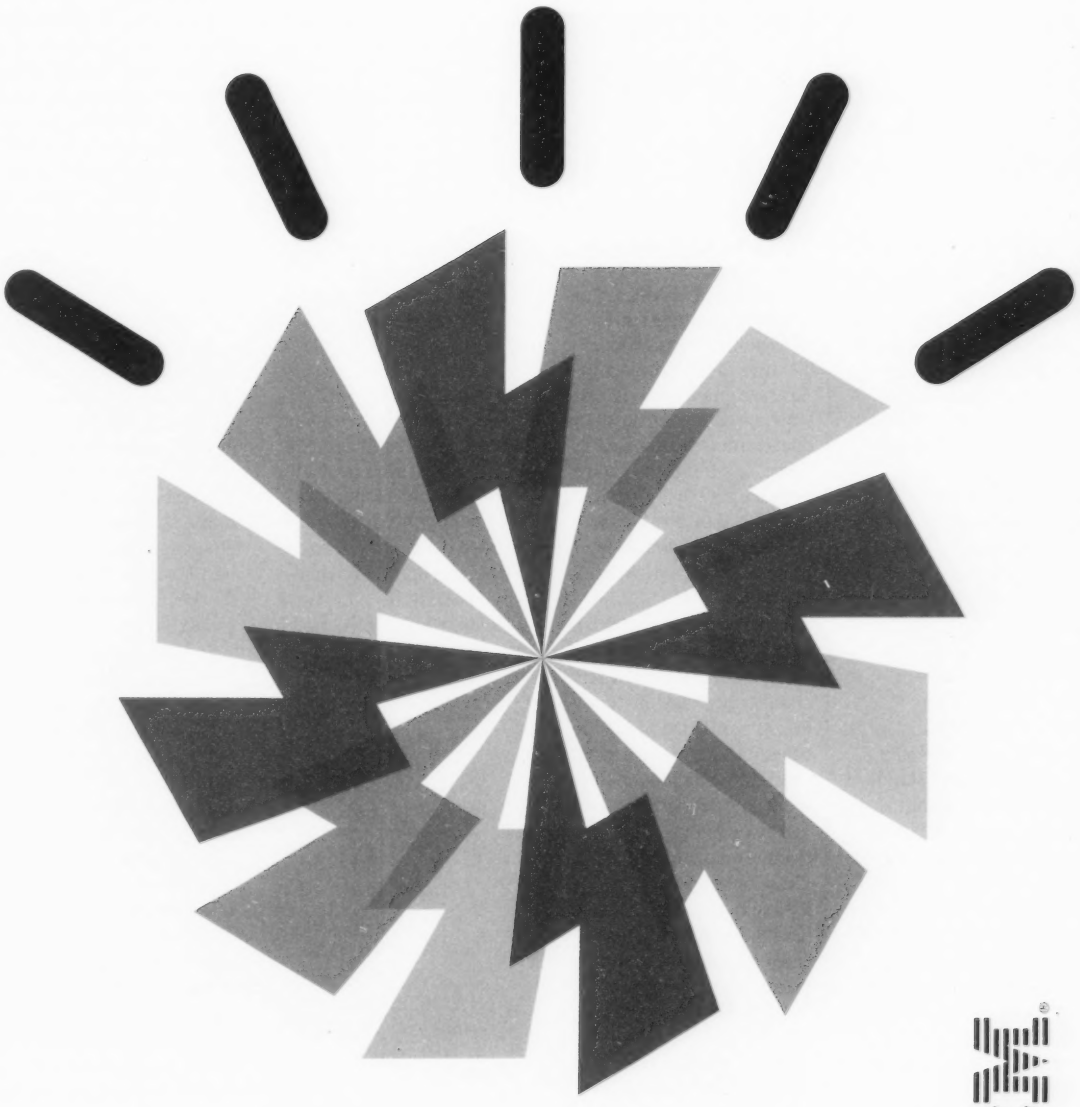

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Banking on Programmer Loyalty

Microsoft's Azure strategy is to lure loyal developers into the cloud.

By Mark Everett Hall

MICROSOFT CORP.'s long hold on power in the software industry has depended on its solid grip on developers. Programmers have written uncountable desktop and client/server applications over the decades that have inextricably linked independent software developers and corporate IT shops to Microsoft. Now the company aims to do the same for cloud-based software by luring loyal programmers to its Windows Azure environment.

Still in beta, Azure features both proprietary tools that Windows developers will recognize and standard technologies that could appeal to programmers outside of Microsoft's orbit. Whether that strategy will work remains to be seen, since Microsoft trails Salesforce.com, Amazon.com, Google and others in entering the cloud, which Merrill-Lynch & Co. has estimated will be a $95 billion market by 2011.

Azure's underlying operating system is a version of Windows Server 2008 that is currently running on virtualized two-core, dual-processor Intel servers. Steven Martin, Microsoft's director of connected system products management, says that unlike traditional developers, Azure application writers won't need to take hardware constraints into account when developing software because Azure is designed to scale up or down based on application demands. Moreover, he says, Azure's .Net Services and SQL Services incorporate characteristics of cloud computing.

For example, Danny Kim, chief technology officer at FullArmor Corp., a Boston-based IT services provider, used Azure's updated .Net workflow capabilities to automate endpoint provisioning and patching services for teachers in rural Ethiopia. Kim says teachers log in sporadically to the national government's Azure service, where systems administrators have a "script on steroids" that updates teachers' machines while it pulls down curriculum metrics from the remote laptops. He says that with Azure, the government doesn't have to worry about when or how often teachers access the service. "You can put workflow into the cloud, which helps you scale the application," Kim says.

AZURE ADVANTAGES

Erik Johnson, senior director of research at Epicor Software Corp. in Irvine, Calif., says Azure is "not just computing in the cloud with storage," like the offerings from Amazon.com and Google. He says users also get additional programming capabilities, such as security tools in .Net that define how their identity or their application's identity is handled by the various services.

Another advantage of Azure for developers is the common language runtime, says Johnson. Programs can be written in .Net-supported languages and use the same runtime environment.

Microsoft also has adopted standards such as XML and SOAP and has included a software developer's kit for the popular open-source Eclipse development framework. Martin claims that any program from inside or outside the cloud, written in any language, can call an Azure service.

Johnson says Epicor's ERP customers were having trouble accessing data outside the firewall from mobile devices. Navigating around huge ERP files through a VPN was too cumbersome, so in its latest release, Epicor added search capabilities through an Azure service.

According to Johnson, the search tool creates an up-to-date index of ERP data, then pushes the index to the Azure cloud. Mobile users, including those who have iPhones, can search using phrases such as "shipments by part number." He says it took three to four weeks to create the service.

Microsoft has not yet determined when Azure will exit beta. Martin says pricing will be based on the amount of resources used.

Because Azure is still in beta, Forrester Research Inc. analyst John Rymer has said that he believes those seeking immediate, stable options for cloud applications might be better served by developing for the Amazon.com or Salesforce.com platforms.

However, FullArmor's Kim says his team had built a PC monitoring application for Salesforce.com's environment but scuttled the project after it was complete, moving it to Azure. He says that the company's 20-plus years as a Microsoft developer made switching to Azure a better bet.

"We did not want to learn a new technology," he says.

Microsoft is betting that that tradition of developer loyalty will help it prevail in the cloud much as it has in the data center and on the desktop. ■

Hall *is a freelance writer living in Oregon. Contact him at mark.everett.hall@me.com.*

SNW SNIA COMPUTERWORLD

Best Practices IN STORAGE

AWARDS PROGRAM

Congratulations to Our Finalists!

SNW, in conjunction with Computerworld and the Storage Networking Industry Association (SNIA), proudly presents the SNW "Best Practices in Storage" Awards Program. This program honors IT user "best practice" case studies selected from a field of qualified finalists.

Finalists in each of the following categories are:

Innovation and Promise

- Activision Publishing, Inc., Santa Monica, California
- Argus Information & Advisory Systems, White Plains, New York
- Cigna - Health Insurance, Windsor, Connecticut

Planning, Designing and Building a Strategic Storage Infrastructure

- Applied Materials Corp, Austin, Texas
- Cancer Treatment Centers of America, Schaumburg, Illinois
- City of Altamonte Springs, Altamonte Springs, Florida

ROI and Best Practices in Green Computing and the Data Center

- Burt's Bees, Morrisville, North Carolina
- ROEL Construction, San Diego, California
- San Diego Data Processing Center (SDDPC), San Diego, California

Selecting and Deploying Storage Networks

- City of Altamonte Springs, Altamonte Springs, Florida
- LSI Corporation, Milpitas, California
- Penson Financial Services, Dallas, Texas

Storage Reliability and Data Recovery

- Herbalife, Los Angeles, California
- Infosys Technologies Limited, Bangalore, Karnataka
- State of Michigan, Department of Information Technology, Lansing, Michigan

Thank you to our "Best Practices in Storage" Judges for SNW Spring 2009:

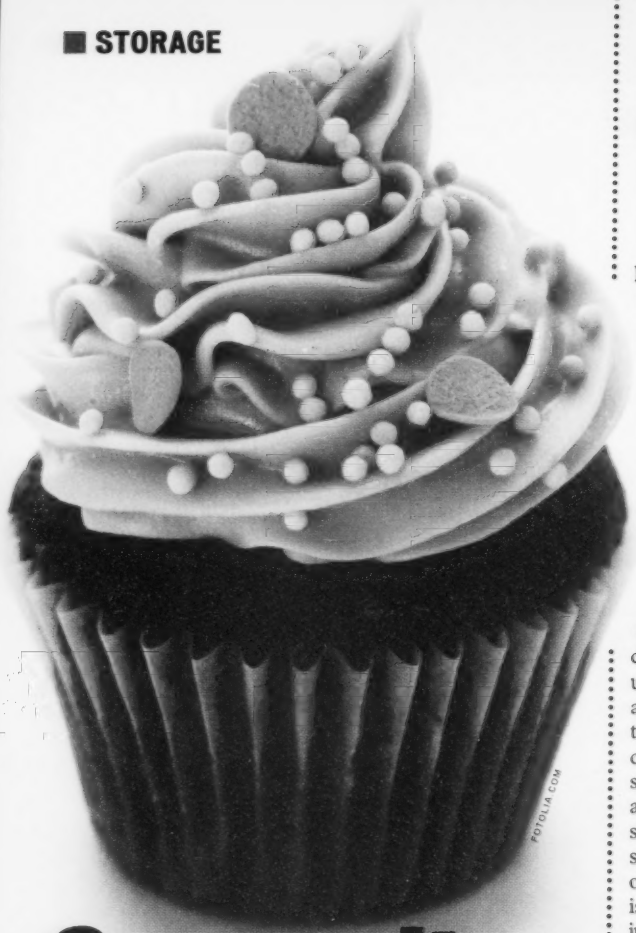
- Rick Bauer, SNIA
- Julia King, Computerworld
- Ellen Lary, Lary.com
- Richie Lary, Lary.com
- Lucas Mearian, Computerworld
- Ron Milton, Computerworld
- Mark O'Gara, Highmark, Inc.
- Chris Saneda, Virginia Credit Union
- Mark Showers, Advisory Services, Inc
- Jim Swartz, Sybase, Inc.
- Don Tennant, Computerworld
- John Webster, Illuminata, Inc.
- Ben Woo, IDC

Program Judges' Criteria

Judges evaluated and ranked the finalists in each category according to their substantiated storage networking solution attributes and achievements against a set of criteria such as:

- Financial return and measurable payback (returns on investment, assets, resources) through created/protected revenue opportunities or cost savings.
- Strategic importance to the business.
- Substantive customer impact (service, retention, acquisition).
- Positive impact on other business/organization units.
- Addresses system and department interoperability issues and heterogeneous platform integration challenges.
- Provides a strategic advantage to the business/organization while anticipating and accommodating the deployment of future storage networking solution initiatives.
- Supports the efficient and reliable data, information and application sharing/access between personnel, departments, divisions, etc.
- Addresses challenges of data, information and application security, recovery, business continuity, etc.

The SNW "Best Practices in Storage" Award Recipients will Be Honored on Tuesday, April 7 at SNW, taking place in Orlando, Florida



Struggling WITH Supersized Storage

Shrinking budgets and swelling data demands send IT managers on a search for more efficient storage.

BY JOHN EDWARDS

TASTY BAKING CO. produces more than 4.8 million cakes, doughnuts, cookies and pies each day. And the Philadelphia-based snack food giant also manages to generate another crucial commodity — computer data — in equally impressive amounts. "It's something to be concerned about," says Brendan O'Malley, Tasty Baking's vice president and CIO.

Like a growing number of businesses worldwide, Tasty Baking is facing a data explosion. The use of e-mail and rich media applications plus the need to stay on top of regulatory compliance are stretching storage resources to the limit at a time when budgets are shrinking. Handling rapidly spiraling storage needs without spending tons of money is a challenge that's facing just about all IT managers. O'Malley crystallizes the need into a single phrase: "More space for the money."

To get a handle on storage demands, IT managers need to carefully examine internal storage practices, use specialized software tools and find appropriate storage systems for various kinds of data. Andrew Reichman, an analyst at Forrester Research Inc., says that they must look first at the two best ways of cutting storage costs. "One is using more-dense drives, and the other is reducing your footprint," he says.

Footprint reduction is relatively easy, says Reichman, asking, "Can you use the Delete key?" But David Hill, founder of The Mesabi Group, a storage management consultancy in Westwood, Mass., notes that many businesses, particularly those in regulated industries, are scared stiff of deleting anything other than spam. "There are a lot of legal reasons, tax reasons," he says. "You have to be careful about how you go about getting rid of data."

FIXED VS. FLUID

Although managers may be reluctant to flush files, they can bring greater efficiency and cost savings to their storage processes by organizing data more efficiently. Hill recommends separating fixed content — e-mails, boilerplate documents and other rarely modified files — from active archives that contain more fluid types of data, such as transactional data.

Hill notes that many businesses unthinkingly use costly, high-performance Fibre Channel storage environments for both types of data. Yet splitting up fixed and active data makes it possible to use less-expensive storage technologies for less volatile information. "You can use what's called capacity storage instead of performance storage," Hill says.

Capacity storage usually comes in the form of Serial ATA drives, which have higher capacity but cost less than other options. "So you get more bang for your buck," Hill says. "That's one thing that businesses can do: move some of their data to these lower-cost drives."

O'Malley agrees that organizing content is a relatively easy way to cut costs. "We have some high-performance applications that run on Fibre Channel, and other applications that don't need that kind of performance that we run on regular

SATA types of disks, where we have a better price for performance," he says.

Data de-duplication — the process of eliminating redundant files — can also save precious storage space. Backup products that de-duplicate data at the host level include Asigra's Televaulting, EMC's Avamar and Symantec's Veritas NetBackup PureDisk. Disk libraries from Data Domain, Diligent Technologies, EMC, Quantum and Sepaton de-duplicate data at the target level, such as the desktop. Both methods determine whether data segments or files are identical by running a file-level comparison or using a hashing algorithm.

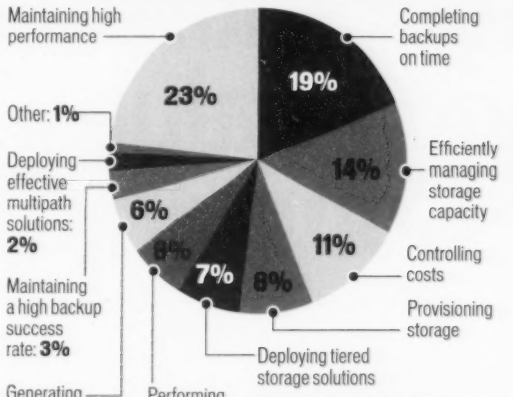
Even relatively insignificant files can pile up to create a big storage headache, says Dave Richerson, manager of infrastructure services at Republic Bank in Louisville, Ky. "If we send a Word document out, that doesn't make a huge impact on the e-mail system," he says. "But 15 people might store that Word document on their home directory as something to refer to down the road and, well, that's 15 copies."

To create space-efficient backups without endangering critical data, Republic uses Avamar for its branch office backups and EMC Disk Library for data center backups. "We've had this system in place for about four months and have seen an immediate, positive improvement in storage efficiency," Richerson says.

De-duplication vendors often claim that their tools can provide a specific ratio of data reduction. Actual data de-duplication ratios can vary widely from customer to customer, of course, but Richerson says he was "floored" by the ratio his deployment achieved. "We see a de-dupe of 8-to-1, or basically 24TB of data is de-duped down to 3TB," he says.

Virtual Headaches

What is the top challenge related to storage for your virtual server environment?



SOURCE: Forrester Research Inc. survey of 124 global IT decision-makers currently using x86 server virtualization technology, September-October, 2008

VIRTUAL EFFICIENCY

At the cutting edge of storage, virtualization promises to help businesses archive data with unprecedented efficiency. Greg Thompson, director of IT at Northeast Bank, is relying on the EqualLogic PS5000 Series virtualized storage-area network from Dell Inc. to store corporate data. The systems are based on a virtualized modular storage architecture that enables Lewiston, Maine-based Northeast to purchase storage as it is needed, preventing over-provisioning.

For Thompson, the new technology marked a welcome departure from local server-based storage. "Local storage on servers gets unruly," he says. "When you run out of space, what do you do, buy another server? So we decided central storage was the answer for us."

Thompson says he opted to tie central storage together with virtualization for server and storage consolidation. "The whole process has worked really well for us," he says, noting that storage can now be scaled easily and efficiently whenever the need arises.

Thompson also appreciates the virtualized environment's inherent redundancy. "If we do have a critical, fatal error happening here at the primary data center, we can have access to just about all our network data within a matter of hours," he says.

Like Thompson, O'Malley says that virtualization can give a big boost to businesses striving for better storage efficiency. Tasty Baking now uses a FAS3020 system from NetApp Inc. to provide Fibre Channel-based storage resources to 40 virtual servers running on 10 physical servers. "We moved away from having any local storage on servers or having any sort of direct-attached storage or anything of that kind," O'Malley says. "Now everything runs off NetApp."

Before O'Malley and his team moved to the virtualized environment, adding storage was both a challenge and a puzzle. "If we were out of storage on a particular server, we wondered if we should find more slots where we could put more disks in, or maybe attach some storage directly to that box," he recalls. "You might have storage space on another server, but you couldn't really share it over to that machine."

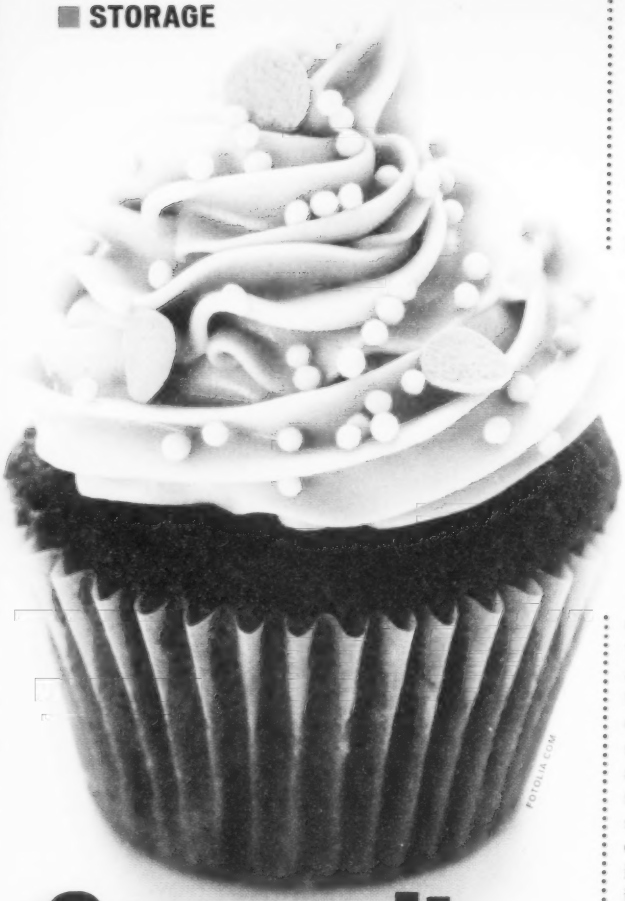
The new environment allows O'Malley to consolidate and optimize storage resources. "We've got one place where everybody is going for storage," he says. "With the thin provisioning, and the ability to move storage, we have one bucket that we're pulling from, and we can get by with a lot less overhead."

The virtualized arrangement allows for more planning flexibility. "We don't have to determine what the maximum possible storage might be for an application over the next three years," O'Malley says. "We don't have to ask that question before we start and advise the server to hold that."

Virtualization also frees storage from constraints imposed by a server's physical configuration. "It's now just a question of finding more storage from the single pool on NetApp," O'Malley says.

He notes that storage efficiency and simplicity meshes well with Tasty Baking's corporate philosophy. "When you think about it, we're just like a corner bakery, only a thousand times bigger," O'Malley says. "What's key for us is keeping our environments as simple as we can." ■

Edwards *is a freelance writer in Gilbert, Ariz. Contact him at jedwards@gojohnedwards.com.*



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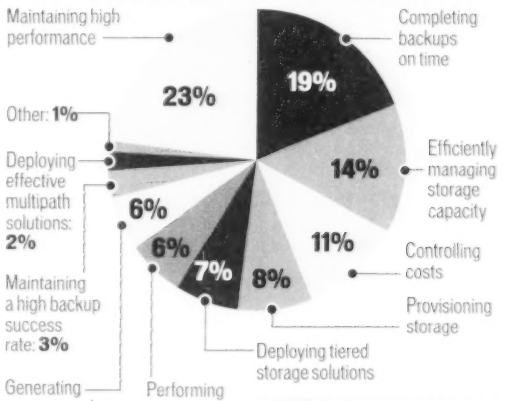
Even relatively insignificant files can pile up to create a big storage headache, says Dave Richerson, manager of infrastructure services at Republic Bank in Louisville, Ky. "If we send a Word document out, that doesn't make a huge impact on the e-mail system," he says. "But 15 people might store that Word document on their home directory as something to refer to down the road and, well, that's 15 copies."

To create space-efficient backups without endangering critical data, Republic uses Avamar for its branch office backups and EMC Disk Library for data center backups. "We've had this system in place for about four months and have seen an immediate, positive improvement in storage efficiency," Richerson says.

De-duplication vendors often claim that their tools can provide a specific ratio of data reduction. Actual data de-duplication ratios can vary widely from customer to customer, of course, but Richerson says he was "floored" by the ratio his deployment achieved. "We see a de-dupe of 8-to-1, or basically 24TB of data is de-duped down to 3TB," he says.

Virtual Headaches

What is the top challenge related to storage for your virtual server environment?



SOURCE: Forrester Research Inc. survey of 124 global IT decision-makers currently using x86 server virtualization technology, September-October, 2008

VIRTUAL EFFICIENCY

At the cutting edge of storage, virtualization promises to help businesses archive data with unprecedented efficiency. Greg Thompson, director of IT at Northeast Bank, is relying on the EqualLogic PS5000 Series virtualized storage-area network from Dell Inc. to store corporate data. The systems are based on a virtualized modular storage architecture that enables Lewiston, Maine-based Northeast to purchase storage as it is needed, preventing over-provisioning.

For Thompson, the new technology marked a welcome departure from local server-based storage. "Local storage on servers gets unruly," he says. "When you run out of space, what do you do, buy another server? So we decided central storage was the answer for us."

Thompson says he opted to tie central storage together with virtualization for server and storage consolidation. "The whole process has worked really well for us," he says, noting that storage can now be scaled easily and efficiently whenever the need arises.

Thompson also appreciates the virtualized environment's inherent redundancy. "If we do have a critical, fatal error happening here at the primary data center, we can have access to just about all our network data within a matter of hours," he says.

Like Thompson, O'Malley says that virtualization can give a big boost to businesses striving for better storage efficiency. Tasty Baking now uses a FAS3020 system from NetApp Inc. to provide Fibre Channel-based storage resources to 40 virtual servers running on 10 physical servers. "We moved away from having any local storage on servers or having any sort of direct-attached storage or anything of that kind," O'Malley says. "Now everything runs off NetApp."

Before O'Malley and his team moved to the virtualized environment, adding storage was both a challenge and a puzzle. "If we were out of storage on a particular server, we wondered if we should find more slots where we could put more disks in, or maybe attach some storage directly to that box," he recalls. "You might have storage space on another server, but you couldn't really share it over to that machine."

The new environment allows O'Malley to consolidate and optimize storage resources. "We've got one place where everybody is going for storage," he says. "With the thin provisioning, and the ability to move storage, we have one bucket that we're pulling from, and we can get by with a lot less overhead."

The virtualized arrangement allows for more planning flexibility. "We don't have to determine what the maximum possible storage might be for an application over the next three years," O'Malley says. "We don't have to ask that question before we start and advise the server to hold that."

Virtualization also frees storage from constraints imposed by a server's physical configuration. "It's now just a question of finding more storage from the single pool on NetApp," O'Malley says.

He notes that storage efficiency and simplicity meshes well with Tasty Baking's corporate philosophy. "When you think about it, we're just like a corner bakery, only a thousand times bigger," O'Malley says. "What's key for us is keeping our environments as simple as we can." ■

Edwards *is a freelance writer in Gilbert, Ariz. Contact him at jedwards@gojohnedwards.com.*

Is Collaboration Destroying Value At Your Company?

When managers see collaboration as an end in itself, they lose sight of the big picture.

Collaboration is good, and more collaboration is better, right? Wrong, says **Morten T. Hansen** *in this month's* Harvard Business Review. *Managers sometimes forget that collaboration is a means to an end, he says. The end is business value, and not all collaboration produces it; in fact, some collaboration can actually destroy value.*

Hansen is a professor at the University of California, Berkeley, and author of Collaboration: How Leaders Avoid the Traps, Create Unity and Reap Big Results *(Harvard Business Press, May 2009). He talked with Kathleen Melymuka about how to spot destructive collaboration.*

Your article seems heretical. How can internal collaboration be counterproductive? People engage in cross-unit projects that turn out to cost more than the value they produce. Sometimes they drank the Kool-Aid that collaboration is great and we must do more, and they start collaborating on projects that have marginal value to begin with.

You say that managers shouldn't be asking, "How can we get people to collaborate more?" What should they ask? "How can we instill the right kind of collaboration so we increase results?" The consequence of asking the second question is that you also ask, "When should we not do it?"

The goal of collaboration is not collaboration; it's results. It follows that to master collaboration is to know when *not* to do it.

You say the way to answer that new question is to calculate the collaboration premium – or penalty. What is that, and how do I calculate it? You need to know three things: First, what is the cash flow from this project if we execute it very well?

Second is opportunity costs: What can we not do because we are doing this? What do we have to forgo because of limited resources, and what is the cash flow from that?

The third thing is difficult to calculate: What is the collaboration cost? If we can't agree on everything, we'll run into problems. How much will they deduct from the rosy estimate of cash flow from the project?

You subtract the second two from the first, and suddenly, it may not be looking like a rosy estimate anymore. If you're looking at a negative number, it's questionable whether you should do this project.

You write that people overestimate the expected financial return for a collaboration project. Why? There is a natural optimism in management, and that drives a lot of it. They're often overshooting.

Why do some people underestimate opportunity costs? When companies preach this mantra that collaboration is good and more collaboration is better, then managers are looking for collaboration projects. But they should be looking for the best projects, and some may not be collaboration projects at all.

What are some of the overlooked costs of collaboration? These are the costs incurred in working across units — problems like disagreeing over objectives, having conflicting goals. Or there is hoarding: People don't want to share information or customers. You have to spend time sorting it all out, and that leads to delays and cost overruns.

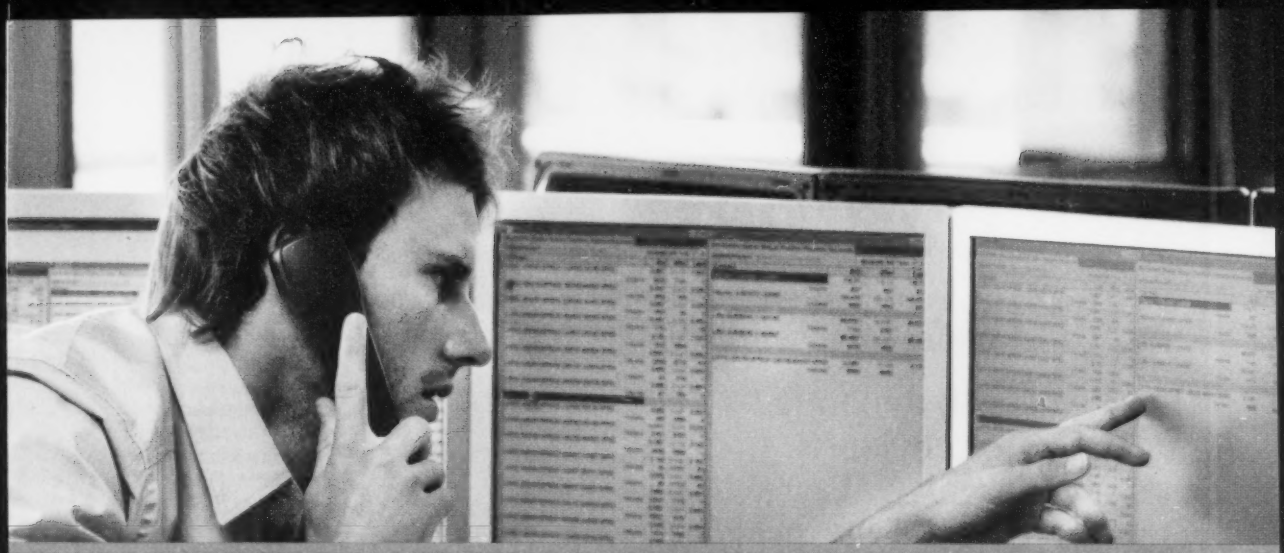
What role does IT play in this whole collaboration universe? When collaboration costs are high in a company, it becomes difficult to have a net collaboration premium. IT puts in place knowledge management databases, videoconferencing systems, online social networking — electronic tools that are really collaboration tools.

If the cost of collaboration goes down a lot, then you will see the value shoot up.

But collaboration tools cannot work alone. Many times, the problem is motivational. You have silos and incentives not to collaborate, so people are unwilling to open up to people in another unit.

If IT has great collaboration tools, it won't help a bit if the people don't want to collaborate. I have often seen companies launch these online tools without solving the underlying management problems.

But if you change incentives so that if you don't collaborate, you don't get promoted, you don't get your bonus, and then you say, "We're also going to give you these great tools that allow you to collaborate better," then you have a winning combination. ■



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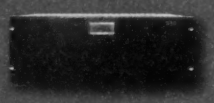

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Rich Internet Applications

RIAs bring fast, dynamic interaction to previously static Web pages.

By Russell Kay

EARLY INTERNET users mostly exchanged text-based electronic mail messages. Then along came HTML and the World Wide Web, and soon people were looking at graphically enhanced Web pages designed by specialists and served up on demand. All these applications mainly involved reading text on-screen and dealing with material that was preformatted and essentially static.

To do tasks like manipulate data and interact with sophisticated business logic, users relied on specialized software on their computers and networks. Then someone thought about providing applications through standard Web pages that people could access with their browsers.

That this was even possible was a tribute to the power of the Web, but the underlying technology was also a terrible limitation. The static, stateless nature of HTTP meant that interaction was one-sided and disconnected, relegated to an asynchronous style reminiscent of green-screen mainframe applications from the 1970s.

These days, we are doing much better.

Today, programmers can embed almost any functionality they want inside a Web-based graphical interface, making it look and act as if it were traditional, shrink-wrapped software.

With modern tools, developers can create complex application screens using a variety of mixed media such as multiple fonts, bit-map and vector graphic files, animations, online conferencing, audio and video. Those applications offer functionality that goes far beyond mere reading and browsing, and they can be served up over the Web. We call these rich Internet applications.

RIA CHARACTERISTICS

A number of key features differentiate RIAs from traditional Web applications.

Direct interaction: In a traditional page-based Web application, interaction is limited to a small group of standard controls: checkboxes, radio buttons and form fields. This severely hampers the creation of usable and engaging applications. An RIA can use a wider range of controls that allow greater efficiency and enhance the user experience.

In RIAs, for example, users can interact directly with page elements through editing or drag-and-drop tools. They can also do things like pan across a map or other image.

Partial-page updating: Standard HTML-based Web pages are loaded once. If you update something on a page, the change must be sent back to the server, which makes the changes and then resends the entire page. There's no other way to do it with HTTP and HTML.

With traditional Web-based apps, network connectivity issues, processing limitations and other problems require users to wait while the entire page reloads. Even with broadband connections, wait times can be long and disruptive.

But RIAs incorporate additional technologies, such as real-time streaming, high-performance client-side virtual machines, and local caching mechanisms that reduce latency (wait times) and increase responsiveness. A number of commercial development tools (see below) permit this partial-page updating.

Better feedback: Because of their ability to change parts of pages without reloading, RIAs can provide the user with fast and accurate feedback, real-time confirmation of actions and choices, and informative and detailed error messages.

Consistency of look and feel: With RIA tools, the user interface and experience with different browsers and operating systems can be more carefully controlled and made consistent.

Offline use: When connectivity is unavailable, it might still be possible to use an RIA if the app is designed to retain its state locally on the client machine. (Developments in Web standards have also made it possible for some traditional Web applications to do that.)

Performance impact: Depending on the application and network characteristics, RIAs can often perform better than traditional apps. In particular, applications that avoid round trips to the server by processing locally on the client are likely to be noticeably faster. Offloading such processing to the client machines can also improve server performance. The downside is that small, embedded and mobile devices — which are increasingly common — may not have the resources necessary to use such apps. ■

Kay *is a* Computerworld *contributing writer in Worcester, Mass. You can contact him at russkay@charter.net.*

Definition

Rich Internet applications (RIA) are Web-based applications that have some characteristics of graphical desktop applications. Built with powerful development tools, RIAs can run faster and be more engaging. They can offer users a better visual experience and more interactivity than traditional browser applications that use only HTML and HTTP.

RIA TOOLS

The list of current technologies that can be used to build modern RIAs is long. Here are some of them:

- **AJAX**
- **Adobe Flash, Flex, and Adobe Integrated Runtime (AIR)**
- **Microsoft Silverlight**
- **Curl (an object-oriented language with embedded HTML markup)**
- **Google Gears**
- **OpenLaszlo and Webtop**
- **Oracle WebCenter**

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A Rougher Week Than Usual for Security Chief

If something could **go wrong** this week, **it did.** Sometimes, **all the bad news** seems to pile up and **drop on you** all at once.

Trouble Ticket

AT ISSUE: Problems cropped up all week, from BlackBerries with no access restrictions to backups that were getting overwritten.

ACTION PLAN: All you can do is take each situation in turn and try to keep peace with all the stakeholders – especially the CIO.

IT WAS a rough week, and if you've been following my tale of layoffs and budget cuts, then you know it takes a lot for me to say that these days.

My first bad news of the week came from the lead engineer for our BlackBerry Enterprise Server, who told me that there was no way to configure the rules for Research In Motion's BlackBerry Mobile Data System to restrict access to our internal network. My policy states that mobile devices should be able to access only our corporate intranet home page, and we had assumed that RIM would have adequate mechanisms within the BlackBerry Enterprise Server to restrict access. We were wrong.

We contacted RIM, which advised us to either install a third-party proxy server or push policies to restrict the applications that run on BlackBerries. With over 2,000 devices in use at our company, pushing application restrictions would be a nightmare. A third-party proxy server is logistically easier to deal with, but that would take money and resources, two things that are in short supply right now.

Next, I got pulled aside by one of my analysts, who told me that he had made a startling discovery while troubleshooting an issue related to one of our data leak prevention sensors: The device was powered off, and the power cord was missing. These sensors are connected to span ports on our switch, and they monitor network traffic for about 3,500 employees. It's all part of our effort to ensure that our intellectual property isn't being transmitted outside the company.

The sensors are kept in a cage in our data center with other security devices. The cage has a very strict access-control list and is fitted with a proximity badge reader. All access is logged, and cameras are fixed on the cage. So, armed with camera footage and a list of people who recently accessed the cage, we should be able to find out what happened.

■ We had assumed that RIM would have adequate mechanisms within the BlackBerry Enterprise Server to restrict access. We were wrong.

SQUEAKY CLEAN

We recently upgraded our content filtering, switching to Webwasher devices from Secure Computing, which has allowed us to expand our ability to prevent employees from accessing sites prohibited under our acceptable-use policy.

Unfortunately, some of the newly blocked sites had been used for business purposes, and now the users are complaining. To whom? You guessed it. Now I have to determine which Web sites can be placed on an exceptions list. The problem is that the requests are becoming fairly frequent, and I'm not making any friends.

Attending to these types of requests has made this week especially busy. Today, a couple of my decisions were escalated to the CIO, and I had to spend time defending my position.

To make my bad week complete, my CIO asked me to validate our backup policy. We operate under a mandate from our general counsel's office to refrain from systematic destruction of data — the residual fallout from a stock-option grant investigation at the company several years ago. In line with that mandate, we back up certain data daily, and the tapes are stored off-site indefinitely.

I'm not sure why we still need to adhere to this requirement, since the investigation is finished and we are spending upward of $30,000 a month in backup tapes and storage fees. Believe me, that's a lot of backup tapes to store indefinitely! What I learned, though, is that some backups are being overwritten.

The CIO freaked out when he heard this news, and we had to act fast to get back into compliance. Fortunately, the lost data may not be "in scope" for the investigation, so we may be off the hook. Still, it was just something else to go wrong during the week. ■

This week's journal is written by a real security manager, **"Mathias Thurman,"** *whose name and employer have been disguised for obvious reasons. Contact him at mathias_thurman@yahoo.com.*

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■ OPINION

Paul Glen

Snap Decisions

BIG DECISIONS seem to be coming fast and furious these days. With the new administration in Washington staring down one of the worst financial crises in living memory and still aspiring to implement an expansive agenda, the choices are mind-boggling. And not to be left out, state governments are being rushed into big decisions, since they, unlike the U.S. government, must balance their budgets each year. Their big decisions are less about what to do than what *not* to do.

But big decisions are not being made only by the government. Businesses affected by the economic crisis are also being forced to make big decisions quickly. Companies are laying off employees, postponing planned projects and abandoning those already under way.

When these big decisions are announced, one of the most common questions I hear is, "Do they understand what this means?"

Those affected by the decisions often wonder whether the implications have been carefully weighed. They wonder whose priorities have been placed first and whether the interests of all those affected have been considered. But most of all, they wonder if a decision has been considered at all or is just a snap judgment made in a state of panic.

We seem to think that snap judgments are necessarily bad ones.

What's funny about this is that, in the end, all decisions are made the same way: instantaneously. There are a number of factors that are considered in a decision and seem to draw it out, but they're not really part of the decision itself.

When making decisions, people sometimes do the following:

- Gather data.
- Deliberate.
- Build consensus.
- Enumerate options.
- Analyze consequences.
- Weigh evidence.
- Solicit feedback.
- Negotiate.
- Organize votes.

■ Those affected by the decisions often wonder whether the implications of big decisions have been carefully weighed.

- Socialize ideas.
- Plan implementation.
- Plan announcements.

But make no mistake: While important, these activities are optional. They are not decision-making. They support either the making or implementation of a decision. Big decisions are made regularly without any of them. Sometimes these decisions are good ones, and sometimes they are not.

We often don't like to admit that even when all of those ancillary activities are done, and done well, the ensuing decisions may not be good ones — at least for us. Sometimes the snap judgments work out better than the extensively deliberated ones.

The other important thing to remember about decisions is that in the end, all decisions are snap decisions. They all follow the same process: "Not made, not made, not made . . . made." They are not made until they are made. Each is either a snap decision or a well-deliberated snap decision; they all ultimately take place in an instant.

What pushes the transition from not made to made is emotion rather than reason. No matter how much analysis, deliberation and consensus-building goes on around a decision, at some point the decision-maker decides how she feels about the options and makes a call.

How we view snap decisions is based on our personal biases. Some people respect those willing to choose without deliberation, viewing them as decisive leaders. Others disapprove and call them reckless. How much followers support a decision is often based on this crucial distinction. They support choices made using a process they trust.

But the connection between decision process and decision quality is tenuous at best. At times like these, leaders and followers alike need to remember that all decisions are made quickly in the face of uncertainty. Judge your decisions based on their fit with reality and not the process through which they are made. ■

Paul Glen *is the founder of the GeekLeaders.com Web community and author of the award-winning book* Leading Geeks: How to Manage and Lead People Who Deliver Technology *(Jossey-Bass, 2003). You can contact him at info@paulglen.com.*

PAGE COMPILED BY JAMIE FOX

Career Watch

78% **Percentage of U.S. IT professionals who said they feel that they are not given the training they need in order to progress.**

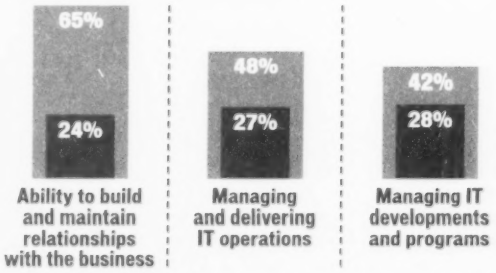
SOURCE: SKILLSOFT INC. SURVEY OF 6,000 EMPLOYEES AT MIDSIZE AND LARGE COMPANIES, OF WHOM 2,000 RESIDE IN THE U.S. AND 1,000 WORK IN IT. SEPTEMBER 2008

CIOs' Priorities in 2009

An overwhelming 65% of 321 CIOs and other senior IT leaders polled late last year rated the ability to build and maintain relationships with the business as "very important." Nonetheless, when it came to staff-development priorities, only 4% of the respondents listed communication training as their top priority.

WHICH SKILLS ARE MOST IMPORTANT, AND HOW DOES YOUR TEAM RATE?

- Very important.
- My team achieves excellence in this skill.



WHAT IS YOUR TOP PRIORITY FOR STAFF DEVELOPMENT IN 2009?

Technical training programs	31%
Informal development among peers	21%
Management training programs	14%
Soft-skills training programs	9%
Focus on enhancing consultative skills	8%
Use of Web 2.0 technology to share knowledge	6%
Communication training programs	4%

SOURCE: FOURTH ANNUAL STRATEGIC INSIGHTS SURVEY OF IT LEADERS IN THE U.S., CONDUCTED FOR IT RECRUITER HARVEY NASH USA BY PA CONSULTING GROUP LTD., PUBLISHED FEBRUARY 2009

PAGE COMPILED BY JAMIE ECKLE

Sandra Naiman

The author of **The High Achiever's Secret Codebook** discusses dealing with stress at work.

What's the single best way to reduce stress in the workplace? Attend to your own physical and emotional well-being. Develop healthy eating and sleeping habits. Get plenty of exercise. Practice relaxation techniques on and off the job.

What else do you suggest? Don't let things build up. Communicate to colleagues about what bothers you sooner rather than later. Maintain your perspective and sense of humor. When you do feel tension building, which it inevitably will, excuse yourself from the situation and give yourself time to cool down. If you cannot get away, speak softly and slowly, thus cueing your body to relax.

What do you say to someone who says he doesn't have time in today's business climate to employ these practices? You don't have time not to. Undue stress will take its toll on you, on and off the job. Moreover, it will impact your performance. A stressed-out worker shows signs of it in the quality of work and in how he or she relates to colleagues. Letting stress get the best of you can ultimately undermine your career success.

– JAMIE ECKLE

When 'I'm Sick' Isn't Enough Of an Excuse

A full third of 6,600 workers surveyed by CareerBuilder.com reported that they called in sick last year when they actually felt fine. Employers who were polled cited a few of the more unusual excuses for absences they had heard:

- I don't want to lose the parking space in front of my house.
- I hit a turkey while riding a bike.
- I had a heart attack yesterday morning, but I'm all better now.
- I donated too much blood.
- My dog was stressed out after a family reunion.
- I was kicked by a deer.
- My psychic told me to stay home.

SOURCE: CAREERBUILDER.COM SURVEY OF 6,600 WORKERS AND 3,388 HIRING MANAGERS AND HUMAN RESOURCE PROFESSIONALS, Q1 2009

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TRUE TALES OF IT LIFE AS TOLD TO SHARKY

Debugging

Boss at this big mobile-phone service provider tells IT pilot fish to go to a cell site and let the exterminator in to spray for bugs. "Bug man sprays in the cell site, then goes into the generator room," fish reports. "All of a sudden, this big bug flies into the room where he's spraying with his wand. He wands the bug away, and as he does that, the wand hits the Halon sensors. Which in turn discharge the Halon in both the cell site and the generator room. Which in turn shuts down the generator, which causes alarms at the network operations center. Eight hours and $8,000 later – and a lot of bosses coming through the cell site – when I finally get to leave, I tell the bug man, 'That was one @#$%! of an expensive bug spray. . . .' "

Just Like She Said

Work order comes in for this support pilot fish to move a PC so that a new desktop can be installed for a user. "The other tech and I were slightly confused," says fish. "We hadn't seen a new computer come through for this user, and the wording of the work order seemed slightly off. I called the user and asked if she had the new computer available. She said she was not receiving a new computer. I replied, 'So you're *not* getting a new desktop.' She said, 'No, I'm getting a new desktop, it's coming in today. I need you to move my computer so they can install it. My old one was scratched and needed to be replaced.' At this point, I was far too confused to argue. I walked over to the user's desk, where maintenance was installing a new top on the user's desk."

Nonintuitive

User needs a loaner laptop, and this support pilot fish sets him up with the only one available. "This loaner laptop didn't have a big touch pad, just a little button in the middle of the keyboard," fish says. "As I went back to see if things were going OK, I noticed the user surrounded by co-workers. They were doing a pool to see how many people knew that the little button in the middle was the 'mouse.' The user didn't feel so bad after finding out how many other people didn't know either."

Bigger Is Better?

Pilot fish gets an automated e-mail message: "Your mailbox has exceeded the storage limit set by your administrator. You may not be able to send or receive new mail until your mailbox size is increased by your system administrator. To increase your storage limit, you are required to contact your system administrator through e-mail. You will continue to receive this warning message periodically if your in-box size continues to exceed its size limit."

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Page number refers to page on which story begins. Company names can also be searched at computerworld.com

A. Epstein and Sons International Inc. 12
Adobe Systems Inc. 34
Amazon.com Inc. 24, 28
AOL LLC 8, 16
Apple Inc. 10
Asigra Inc. 31
Auto Warehousing Co. 4
Bick Group 13
CareerBuilder.com 37
Center for Strategic and International Studies 8
Cisco Systems Inc. 10
Coghead Inc. 23
CPS Energy 24
Data Domain Inc. 31
Dataware Services LLC 14
Dell Inc. 20, 31
Deloitte Touche Tohmatsu 13
Digital Realty Trust Inc. 12
Diligent Technologies Corp. 31
EMC Corp. 10, 31
Enomaly Inc. 10
Epicor Software Corp. 28
Facebook Inc. 20
Fenwick & West LLP 14
FlexiScale 24
Forrester Research Inc. 24, 26, 28, 30, 31
Fortify Software Inc. 8
FullArmor Corp. 28
Gartner Inc. 14, 26
GoGrid 24
Google Inc. 13, 28, 34
Harvey Nash USA 37
HDI 6
Healthcare Information and Management Systems Society 6
IBM 4, 10
IntAcct Corp. 26
Intel Corp. 8, 10, 28
JetBlue Airways Corp. 20
Kaiser Permanente 6
Lenovo Group Ltd. 10
Linux Foundation 8
Little, Brown and Co. 16
McAfee Inc. 14
MeDeploy 26
Merrill-Lynch & Co. 28
Microsoft Corp. 8, 10, 13, 24, 28, 34
Minnesota Privacy Consultants 6
Munk Center for International Studies 8
MySpace Inc. 8
National Institute of Standards and Technology 8
National Retail Federation 6
NetApp Inc. 31
NetSuite Inc. 26
New South Wales Department of Education and Training 10
News Corp. 8
Northeast Bank 31
Omaha Public Power District 13
OnePartner LLC 13
Oracle Corp. 24, 34
PA Consulting Group Ltd. 37
Progress Software Corp. 8
Qantas Airways Ltd. 10
Quantum Corp. 31
Rackable Systems Inc. 10
RedMonk 10
Republic Bank 31
Research In Motion Ltd. 35
RightScale Inc. 24
Salesforce.com Inc. 26, 28
SAP AG 10, 24, 26
Satyam Computer Services Ltd. 10
SecDev Group 8
Secure Computing Corp. 35
Securities and Exchange Board of India 10
Sepaton Inc. 31
Serena Software Inc. 24
Silicon Graphics Inc. 10
SkillSoft Inc. 37
Storage Networking Industry Association 6
Sun Microsystems Inc. 10
Symantec Corp. 14, 31
Tennessee Valley Authority 13
Twitter Inc. 16
U.S. Department of State 6
University of California, Berkeley 32
University of California, Los Angeles 6
University of California, Santa Barbara 24
University of Toronto 8
VMware Inc. 10
Whole Foods Market Inc. 20
Yahoo Inc. 13

ADVERTISERS INDEX

1&1 Internet 18-19
www.1and1.com
Accenture C2-1
accenture.com/itconsulting
CDW Corporation 33
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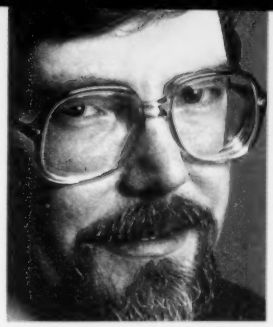
■ FRANKLY SPEAKING

Frank Hayes



The Sound of Y2k

CAN YOU HEAR IT? Amid the deafening silence that was the Conficker nonevent of April Fools' Day (see story, page 14), you should be able to detect an echo from the past. It started as a quiet murmur, but over time, it will build to a crescendo that could make Conficker the most dangerous malware IT has ever seen.

It's the sound of Y2k all over again.

You remember Y2k. The early warnings. The dire predictions. The concerned harrumphings by pundits. The apocalyptic pronouncements by fearmongers. And at last, the nonevent.

And then the choruses of "I told you so," "I knew it was just hype," and "It was all a hoax."

Nothing happened, so there must have been nothing all along. It was never anything more than a scheme by consultants to pocket hundreds of billions of dollars. We wuz robbed!

Remember?

Those post-Y2k know-it-alls didn't let reality disturb their confidence. Nothing happened? Well, actually, things had been happening for years. Systems had been tested for what would happen on Jan. 1, 2000 — and they failed. But because they'd failed during tests in 1999 or 1997 or 1995, they were fixed long before zero hour arrived.

As the millennium approached, there were more failures — scattered bits of faulty interaction between code that had been fixed in incompatible ways. Those, too, were caught and corrected.

And a lot of IT professionals spent New Year's Eve, the big night, in data centers, ready to leap into action if something catastrophic happened.

It didn't. There were scattered problems — including system failures at two nuclear power plants in Japan — but everyone was ready for such things. And because the predictions of catastrophe were predicated on lots of critical systems failing at once in exactly the same way with no preparation or safety net, no one seemed to notice the minor glitches.

■ Y2k was a nonevent because we fixed the problem. But with Conficker – well, we haven't fixed anything.

No wonder people got cynical. They were promised apocalypse. They got a pot of nothing.

Which brings us back to Conficker. It was all over the mass media a week ago — most notably on *60 Minutes*, which played up the direst predictions. On the big day, cable news channels breathlessly waited for signs of a digital Pearl Harbor. They never appeared. April Fools!

The "I told you it was a hoax" dismissals have started again. And that should worry us in IT.

Y2k was a nonevent because we fixed the problem. But with Conficker — well, we haven't fixed anything.

We thought April Fools' Day was some kind of deadline, because that date was hard-coded into the new version of Conficker. But just because that date has passed, that doesn't mean Conficker is any less dangerous.

Conservative estimates put the size of the Conficker botnet at over 2 million PCs. That's one heck of a botnet. And it's still out there: a controlled, coordinated threat in the hands of people who, we hope, just plan to use it to make money with spam.

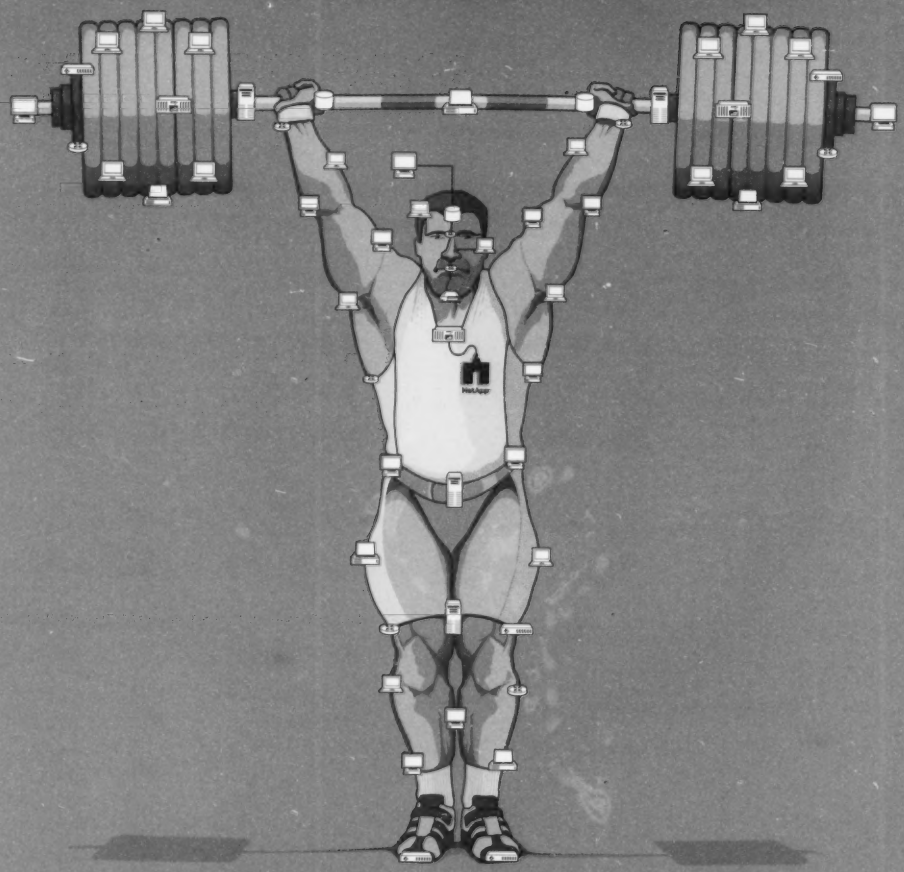
And there's no Y2k-like deadline, no event horizon. So hearing reporters, bloggers and professional harrumphers compare Conficker to Y2k should make us a little nervous.

And hearing security researchers brag that we made it through, that Conficker's creators have failed and all their work has gone for naught, should make us more than a little queasy.

That's the sound of Y2k. The sound of complacency — of people who believe that we've won and think that because nothing happened, there never really was any threat.

There was. And there still is. ■

Frank Hayes *is* Computerworld's *senior news columnist. Contact him at frank_hayes@computerworld.com.*



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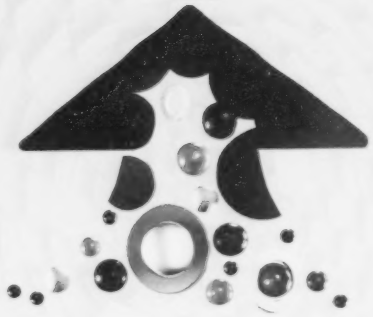

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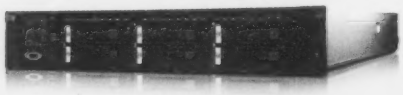

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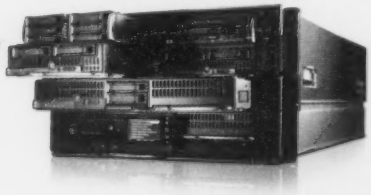

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